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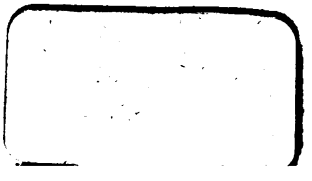

THE

MINING WORLD INDEX

of Current Literature

VOL. IV LAST HALF YEAR 1913

By GEO. E. SISLEY
Associate Editor
Mining and Engineering World

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Preface

The fourth volume of The Mining World Index of Current Literature (for the last half of 1913), like previous volumes, covers the world's literature on mining, metallurgy and kindred subjects and embraces all reference of any importance to the literature of the field it represents.

There is no claim that the work is perfect, but, being the only one of its kind devoted exclusively to the mining industry and, judging by the many kind words that have been said of it by prominent engineers, geologists and others connected with the industry throughout the world, we feel that our labors are being appreciated.

In The Mining World Index of Current Literature are classified all articles appearing in periodical magazines published in America, Europe, Africa and Australia on mining, mining engineering, metallurgy, mining geology, mineralogy, etc.; also the valuable publications of the world's mineral industries institutes and affiliated engineering and technical societies, as well as publications of the federal and state geological surveys and mining bureaus at home and abroad—not to mention new books. All these are indexed by a simple plan, easily understood. By the system of cross-indexing used one can readily find what is wanted on any mining or affiliated subject. In all cases where the title as published is vague a brief digest is given.

It should be remembered that in the search for some particular article covering a certain subject, where reference of any importance is made in that article to more than one subject, the article will also be indexed under that subject as well. It may be only a few lines in length, but those few lines may contain just the information you are in search of.

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A

Acetylene Journal, Chicago.
Allgemeine österreichische Chemiker und Techniker-Zeitung.
American Ceramic Society.
American Chemical Society.
American Electrochemical Society.
American Fertilizer, Philadelphia.
American Institute of Chemical Engineers.
American Institute of Electrical Engineers.
American Institute of Mining Engineers.
American Iron & Steel Institute.
American Journal of Science, New Haven, Conn.
American Metal Society.
American Metallurgical Society.
American Mining Congress.
American Museum of Safety, New York.
American Peat Society.
American Railway Engineering Association.
American Society of Engineering Contractors.
American Society of Mechanical Engineers.
American Wood Preservers' Association.
Anales de la Sociedad Cientifica Argentina.
Annales de Mines, Paris.
Annales des Mines de Belgique, Brussels, Belgium.
American Portland Cement Manufacturers.
Association of Mining Electrical Engineers, England.
Association of Railway Electrical Engineers.
Australasian Coal & Iron Trade Review, Sydney.
Australasian Institute of Mining Engineers.
Australian Mining Standard, Melbourne.

B

Berg und Hüttenmännische Rundschau, Kattowitz, Germany.
Berg & Hüttenm, Jahrb. Leoben-Pribram.
Bergwirtschaftliche, Mittellungen.
Birmingham Metallurgical Society, England.
Bitumen, Wiesbaden, Germany.
Black Diamond, Chicago.
Braunkohle.
Brick & Clay Record, Chicago.
British Columbia Bureau of Mines.
British Columbia Mining Exchange & Engineering News, Vancouver, B. C.
British Columbia Mining & Engineering Record, Victoria, B. C.
British Guiana Institute of Mines and Forests.
Bulletin of the Bureau of Standards, Washington, D. C.
Bulletin of the Imperial Institute, London.
Bulletin of the Pan-American Union, Washington, D. C.

C

California Miners' Association.
California State Mining Bureau.
Canada Department of Mines, Ottawa.
Canada Geological Survey.
Canadian Engineer, Toronto.
Canadian Mining Institute.
Canadian Mining Journal, Toronto.
Cassier's Magazine, New York.
Cement, New York.

E

Economic Geology, Urbana, Ill.
Edinburgh Geological Society, Edinburgh, Scotland.
Eisen Zeitung, Berlin, Germany.
El Economista Mexicana, Mexico City.
Electrical Engineer, London.
Electrical Review, London.
Electrical Review & Western Electrician, Chicago.
Electrician, London.
Electrotechnik & Maschinenbau, Vienna, Austria.
Elektrochemische Zeitschrift, Berlin, Germany.
El Paso Mining Journal, El Paso, Tex.
Engineering Association of New South Wales, Sydney, Australia.
Engineering Digest, New York.
Engineering, London.
Engineering Magazine, New York.
Engineering News, New York.
Engineering Record, New York.
Engineering Review, London.
Engineering & Contracting, Chicago.
Engineering & Mining Journal, New York.
Engineers' Club, Philadelphia.
Engineers' Society of Eastern Pennsylvania.
Engineers' Society of Western Pennsylvania.
English Ceramic Society, England.
Excavating Engineer, Milwaukee, Wis.
Faraday Society, London.
Cement Age, New York.
Centralblatt der Hütten & Walzwerke, Berlin, Germany.
Chemical Engineer, Chicago.
Chemical, Metallurgical & Mining Society of South Africa, Johannesburg.
Chemiker-Zeitung, Cöthen, Germany.
Chemiker & Techniker-Zeitung, Vienna, Austria.
Chemist-Analyst.
Cleveland Engineering Society, Cleveland, Ohio.
Coal Age, New York.
Coal Mining Institute of America.
Coal Trade Bulletin, Pittsburgh.
Coal & Coke Operator, Pittsburgh.
Colliery Engineer, Scranton, Pa.
Colliery Guardian, London.
Colorado Scientific Society.
Colorado State Bureau of Mines.
Columbia School of Mines Quarterly, New York.
Compressed Air Magazine, New York.
Connecticut State Geological & Natural History Survey.
Cornwall Mining Association and Institute, Cornwall, England.
Cuerpo de Ingenieros de Minas del Peru, Lima, Peru.

D

Der Bergbau, Gelsenkirchen, Germany.
Der Erzbergbau, Berlin, Germany.
Der Kohleninteressent, Teplitz, Bohemia.
Deutsche Bergwerks Zeitung, Essen-Ruhr, Germany.
Deutsche Technik, Germany.
Die Fördertechnik, Wittenberg, Germany.
Domestic Engineering, Chicago.

F

Federated Malay States Mines Report, Singapore.
Ferrum, Aachen, Germany.
Florida State Geological Survey, Tallahassee.
Franklin Institute, Philadelphia, Pa.

G

General Electric Review, Schenectady, N. Y.
Geological Society of South Africa.
Geological Society of Tokyo, Japan.
Geological Society of Washington, Washington, D. C.
Georgia Geological Survey, Atlanta.
Giesserei Zeitung, Berlin, Germany.
Glückauf, Essen, Germany.
Great Britain Geological Survey.

I

Idaho State Inspector of Mines.
Ideal Power, Chicago.
Illinois State Geological Survey, Urbana, Ill.
Illuminating Engineering Society.
India Geological Survey, Calcutta.
Indian & Eastern Engineer, Calcutta.
Indiana Department of Geology & Natural Resources, Indianapolis.
Industrial Advocate, Halifax, Nova Scotia.
Industrial Engineering, New York.
Informaciones y Memorias, Boletin de la Sociedad de Ingenieros, Lima, Peru.
Informes y Memorias del Instituto Mexicana, de Mines of Metalurgia, Mexico.
Ingeneria, Spain.
Institute of Engineers & Ship Builders, Scotland.
Institute of Marine Engineers, England.
Institution of Mining Engineers, London.
Institution of Mining & Metallurgy, London.
International Association for Testing Materials.
International Congress for Radiology & Electrology.
International Railway Fuel Association.
Iowa Engineer, Ames, Iowa.
Iowa Geological Survey.
Iowa State College Engineering Experiment Station, Ames.
Iron Age, New York.
Iron Trade Review, Cleveland, O.
Iron & Coal Trades Review, London.
Iron & Steel Institute, London.

J

Journal du Four Electrique et de l'Electrolyse, Paris.
Journal du Petrole, Paris.
Journal of Electricity, Power & Gas, San Francisco.
Journal of Geology, Chicago.
Journal of Industrial & Engineering Chemistry, Easton, Pa.

K

Kali, Erz & Kohle, Halle, Germany.
Kali, Halle, Germany.
Kansas University Geological Survey.
Kentucky Geological Survey.
Kentucky Mining Institute.
Kohle & Erz, Kattowitz, Germany.

L

La Metallurgia Italiana, Milan, Italy.
La Metallurgie du Nord, Mauebeuge, France.
Lackawanna Chemical Society, Scranton, Pa.
Lake Superior Mining Institute, Ishpeming, Mich.
L'Echo des Mines de la Métallurgie, Paris, France.
Le Pétrole, Paris, France
Le Phosphate, Paris.
Levant Trade Review.
Liverpool Geological Association, Liverpool, England.
Los Angeles Chamber of Mines & Oil, Los Angeles, Cal.
Louisiana Geological Survey, Baton Rouge.
L'Opinion Financiere, Paris, France.

M

Malayan Tin & Rubber Journal, Ipoh-Perak, F. M. S.
Manchester Association of Engineers, Manchester, England.
Manchester Mining & Geological Society, England.
Mechanical World, Manchester, England.
Metall und Erz, Halle, Germany.
Metallurgia Italiana, Italy.
Metallurgical & Chemical Engineering, New York.
Metallurgie, Halle, Germany.
Mexican Institute of Mining & Metallurgy, Mexico.
Mexican Mining Journal, Mexico City.
Michigan Geological Survey, Lansing, Mich.
Midland Institute of Mining, Civil & Mechanical Engineers, England.
Mining Engineering, London.
Mining Institute of Scotland, Hamilton.
Mining Journal, London.
Mining Magazine, London.
Mining Science, Denver, Colo.
Mining Society of Nova Scotia, Halifax.
Mining World & Engineering Record, London.
Mining & Engineering Review, Melbourne, Australia.
Mining & Engineering World, Chicago.
Mining & Geological Institute of India, Calcutta.
Mining & Metallurgical Society of America.
Mining & Scientific Press, San Francisco.
Minnesota Geological & Natural History Survey.
Mississippi State Geological Survey.
Missouri Bureau of Geology & Mines, Rolla.
Missouri Geological Survey.
Missouri School of Mines.
Montan-Zeitung für Oesterreich-Ungarn und die Balkanländer, Graz, Austria.
Montana Inspector of Mines' Reports, Helena.
Montanistische Rundschau, Berlin, Germany.

N

National Academy of Sciences.
National Association of Colliery Managers, London.
National Association of Stationary Engineers.
National Geographic Magazine, Washington, D. C.
National Lime Manufacturers' Association, Riverton, Va.
Natural Gas Journal, Buffalo, N. Y.
New Jersey Geological Survey, Trenton.
New South Wales Engineering Association, Sydney.
New York & Eastern Pennsylvania Coal Merchants' Association.
New Zealand Geological Survey, Wellington.
New Zealand Institute, Wellington.
North Carolina Geological Survey, Chapel Hill.
North of England Institute of Mining & Mechanical Engineers, Newcastle-on-Tyne, England.
North Staffordshire Institute of Mining & Mechanical Engineers, Stoke-on-Trent, England.
Northwest Mining & Metallurgy, Spokane, Wash.
Nova Scotia Mining Society.

O

Oesterrichische Zeitschrift für Berg- und Huttenwesen, Vienna.
Oil Age, Los Angeles, Cal.
Oklahoma Geological Survey, Norman.
Ontario Bureau of Mines, Toronto.
Oxford Opthalmological Congress, England.

P

Pacific Mining Journal, Seattle, Wash.
Pahasapa Quarterly, Rapid City, S. D.
Pan American Union, Washington, D. C.
Pennsylvania Mines Department, Harrisburg.
Pennsylvania Topographic & Geologic Survey, Harrisburg.
Peru Today, Lima.
Petroleum, Berlin, Germany.
Petroleum World, London.
Pfalz-Saarbrücker Bezirksvereins deutscher Ingenieure, Germany.
Philadelphia Engineers' Club, Philadelphia.
Philippine Journal of Science, Manila.
Popular Mechanics, Chicago.
Power, New York.
Practical Electricity & Engineering, Chicago.
Practical Engineer, Chicago.

Q

Quebec Bureau of Mines, Quebec.
Quebec Department of Colonization, Mines & Fisheries, Quebec.
Queensland Geological Survey, Brisbane.
Queensland Government Mining Journal, Brisbane.

R

Radium, Pittsburgh.
Rassegna Mineraria Metallurgica e Chimica, Turin, Italy.
Resources of Tennessee, Nashville.
Revue de Metallurgie, France.
Revue des Matériaux de Construction et de Travaux Publics, Paris.
Rhodesia (Southern) Mines Department, Salisbury.
Rhodesian Chamber of Mines, Bulawayo.
Rock Products, Chicago.
Resoconti delle Riunioni Asso. Sarda, Italy.
Revista Minera Metallurgica y de Ingenieria, Madrid, Spain.
Revista Minera e Industria de Linares, Spain.
Revue d'Electrochimie et d'Electrometalurgie, Paris, France.
Revue Noire, Paris, France.
Revue Practique des Industries Metallurgiques, Paris, France.
Rigasche Industrie Zeitung, Riga, Russia.
Royal Geological Society of Cornwall, England.
Royal Society of Arts Journal, London.

S

Salt Lake Mining Review, Utah.
Scientific American, New York.
Science & Art of Mining, Wigan, England.
Sibley Journal of Engineering, Ithaca, N. Y.
Smithsonian Institution, Washington, D. C.
Société Amicale des Anciens Élèves de l'École des Maîtres-Mineurs de Douai, France.
Société Chimique de Belgique, Brussels, Belgium.
Société des Ingénieurs Civils de France.
Society of Arts, London.
Society of the Chemical Industry, London.
Society of the Chemical Industry, New York.
South Africa Engineering, London.
South African Association of Engineers, Johannesburg.
South African Institute of Electrical Engineers.
South African Mining Journal, Johannesburg.
South Dakota Engineering Society.
South Dakota Inspector of Mines, Sioux City, S. Dak.
South Dakota School of Mines, Rapid City, S. Dak.
South Staffordshire & Warwickshire Institute of Mining Engineers, Birmingham, England.
South Wales Institute of Engineers, Cardiff, Wales.
Staffordshire Iron & Steel Institute, England.
Stahl und Eisen, Düsseldorf, Germany.
Südwestdeutsche Industrie Zeitung, Saarbrücken, Prussia.

T

Technische Blätter, Essen-Ruhr, Germany.
Technische Centralanzeiger, Germany.
Tech. du Nord de la France.
Tennessee State Geological Survey, Nashville.
Tonindustrie Zeitung, Berlin, Germany.
Transvaal Chamber of Mines, Johannesburg.

U

United States Bureau of Mines, Washington, D. C.
United States Bureau of Standards, Washington, D. C.
United States Bureau of Standards.
United States Consular Reports, Washington, D. C.
United States Department of Agriculture, Washington, D. C.
United States Department of Commerce and Labor, Washington, D. C.
United States Geological Survey, Washington, D. C.
University of Illinois, Engineering Experiment Station, Urbana.
University of Texas, Austin.
University of Texas Mineral Survey.

V

Vancouver, B. C., Chamber of Mines, Vancouver, B. C.
Victoria Chamber of Mines, Melbourne, Australia.
Virginia Geological Survey, Charlottesville.

W

West Australian Mining, Building & Engineering Journal, Kalgoorlie.
West of Scotland Iron & Steel Institute, Glasgow.
West Virginia Geological Survey, Morgantown.
Western Australia Department of Mines, Perth.
Western Australia Geological Survey, Perth.
Western Australia Institution of Engineers, Perth.
Western Society of Engineers, Chicago.
Wisconsin Engineer, Madison.
Wisconsin Geological & Natural History Survey, Madison.
Wood Preservers' Association, Chicago.
Wyoming Geological Survey, Cheyenne.

Y

Yale Scientific Monthly, New Haven, Conn.

Z

Zeitschrift der Oberschlesischen Berg & Hüttenmannischen Verein, Kattowitz, Germany.
Zeitschrift des Internationalen Vereines der Bohringenieure & Bohrtechniker, Vienna, Austria.
Zeitschrift des Zentral Verbandes der Bergbau Betriebsleiter, Dux, Bohemia.
Zeitschrift für des Berg, Hütten & Salinen Wesen in preussischen Staate, Berlin, Germany.
Zeitschrift für das gesamte Schiess & Sprengstoffwesen, Munich, Germany.
Zeitschrift für Elektrochemie, Halle, Germany.
Zeitschrift für praktische Geologie, Berlin.
Zentral - Blatt Kunstdünger Industrie, Mannheim, Germany.

Explanations and Abbreviations

The entries show:

(1) The author of the article.

(2) A dash if the name is not apparent.

(3) The title, in italics, of the article or book. Titles in foreign languages are ordinarily followed by a translation or explanation in English.

(4) When the original title is insufficient a brief amplification is added. This addition is in brackets.

(5) The journal in which the article appeared; also the date of issue, and the page on which the article begins.

(6) Approximate number of words. Illustrated articles are indicated by an asterisk (*).

(7) The price. Articles mentioned will be supplied to subscribers of Mining and Engineering World and others at the prices quoted. Two-cent postage stamps will be accepted on orders less than $1. Subscribers will be allowed a discount of 5 cts. if the price of the article exceeds 50 cts.

NOTE.—When there is more than one author to an article, only the first named appears in alphabetical arrangement, the others appearing, however, on the page or pages designated in author's index.

Subjoined is a list of the commoner abbreviations found in this work. They are used chiefly in the names of periodicals, and of associations. The abbreviations will be found easily intelligible at sight, and are what they purport to be—self-explanatory abbreviations, not symbols.

Abst.—Abstract.
Acad.—Academy; Académie; Accademia.
Adv.—Advance.
Afr.—Africa; African.
Akad.—Akademie.
Allgm.—Allgemeine.
Amer.—American.
A. I. M. E.—American Institute Mg. Eng.
Archts.—Architects.
Assn.—Association.
Ber.—Berichte.
Bol.—Boletin; Boletim; Bollettino.
Bull.—Bulletin.
Bur.—Bureau.
Centralbl.—Centralblatt.
C-R.—Compte-Rendu; Resoconti.
Chap.—Chapter.
Chem.—Chemical.
Chemy.—Chemistry.
Coll.—College.
Colly.—Colliery.
Cong.—Congress.
Conv.—Convention.
d.—des (French and German).
Dept.—Department.
Deu.—Deutsche, etc.
Econ.—Economic.
Ed.—Editorial.
Elect.—Electrical.
Engg.—Engineering.
Engr.—Engineer.
Engrs.—Engineers.
Ext.—Extract.
f.—for; für.
Gaz.—Gazette.
Geol.—Geology.
Geolog.—Geological.
Ges.—Gesellschaft.
Govt.—Government.
Hüttenm.—Hüttenmännische.
Ind.—Industrial; Industriel; Industrielle.
Ingr.—Ingenieure, Ingenieros.
Inst.—Institute; Institut; Instituto.
Instn.—Institution.
Intl.—International.
Jahresber.—Jahresbericht.
Jahrb.—Jahrbuch.
Jnl.—Journal.
Mag.—Magazine.
Mech.—Mechanical.
Met.—Metallurgy.
Metl.—Metallurgical.
Mex.—Mexican.
Mfrs.—Manufacturers.
Mg.—Mining.
Min.—Mineral.
Mittlngn.—Mitteilungen.
Oestr.—Oesterreichische; Oesterreich.
Proc.—Proceedings.
Quart.—Quarterly.
Rec.—Record.
Rept.—Report.
Res.—Resources.
Rev.—Review; Revue; Revista.
Sci.—Science; Sciences.
Scient.—Scientific.
Soc.—Society; Société; Società.
Suppl.—Supplement; Supplementary.
Surv.—Survey.
Tech.—Technology.
Trans.—Transactions.
Ver.—Verein.
Verb.—Verband.
Verh.—Verhandlungen.
Univ.—University.
Zentralbl.—Zentralblatt.
Ztg.—Zeitung.
Zts.—Zeitschrift.

PART I.

ORES AND MINERAL PRODUCTS.

METALS AND METAL ORES.

CHAPTER I.

GOLD, SILVER AND PLATINUM.

GOLD

Gold Fields and Mining

Akin, A. D.—*The Olancho Country, Honduras.*—M. & S. P., July 12, 1913; p 49; 3000 w*; 20c.

Allen, Carl A.—*The Platoro District, Colorado.*—E. & M. J., Sept. 27, 1913; p 575; 2400 w*; 25c.

Anson, J. W.—*Electrical Distribution for Mines.* (Abstract of paper read before S. Af. Inst. El. Engrs.).—Electrician, London, June 27, 1913; p 491; 2000 w; 35c. 27, 1913; 2600 w; 10c.

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Bennett, S. Earl.—*A Visitor's Estimate of Platoro District, Colo.*—E. & M. J., Aug. 9, 1913; p 258; 650 w; 25c.

Bernewitz, M. W. von.—*Dredging at Natomas, California.*—M. & S. P., Dec. 27, 1913; 1000 w*; 20c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 281; 2200 w; 25c.

Bouery, Pierre.—*Examining a Peruvian Placer.*—M. & S. P., June 21, 1913; 3600 w*; 20c.

Bradley, F. W.—*Plans of the Alaska Juneau Gold Mining Co.*—M. & S. P., Dec. 6, 1913; p 880; 3500 w*; 20c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Bridge, John M.—*Notes on Steel Ore-Passes.*—Trans. Australasian Inst. M. E., No. 10, 1913; p 181; 7 pp*; 75c.

Brooks, Alfred H.—*Mineral Production of Alaska in* 1912. (From advance chapter Mineral Res. U. S.).—Mg. & Eng. World, Aug. 23, 1913; p 335; 4500 w; 10c.

Bushell, B. D.—*Sinking Against Water on the Rand.* (Trans. Inst. Mg. & Met.; abstract).—E. & M. J., June 14, 1913; p 1201; 2000 w*; 25c.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Cairnes, D. D.—*The Chisana Placer-Gold Strike in Alaska.* (Report to Canadian Geol. Surv.).—Mg. & Eng. World, Nov. 22, 1913; p 935; 2500 w; 10c.

Caldecott, W. A. and Powell, O. P.—*The Sand-Filling of Mines on the Rand.*—Jnl. Chem., Met. & Mg. Soc. of S. Af., Sept., 1913; p 119; 15 pp*; 75c.

Coldham, J. C.—*Underhand Stoping with Square Sets as Practiced in the Broken Hill Proprietary Mine.* — Trans. Australasian Inst. M. E., No. 10, 1913; p 163; 13 pp*; 75c.

Cole, A. A.—*Mining Methods at Porcupine, Ont.* (Abstract of report to T. & N. O. Ry. Commission).—Can. Mg. Jnl., June 15, 1913; p 375; 1700 w; 35c.

Cormick, C. P.—*Two Important Alaska Placer Strikes.* (Shushanna-Nelchina).—Mg. & Eng. World, Dec. 6, 1913; p 1018; 1300 w*; 10c.

De Hora, M. H.—*Gold Placers of Antioquia, Colombia, S. A.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 16, 1913; p 297; 1000 w*; 10c.

Del Mar, Algernon.—*Scientific Management Applied to Gold Mining.*—Mg. & Eng. World, Nov. 1, 1913; p 795; 3250 w; 10c.

Denny, H. S.—*Rand Conditions and Future Outlook.*—M. & S. P., Sept. 6, 1913; p 383; 2800 w; 20c.

Diller, J. S.—*California Gold Deposits.* (Abstract from Bull. 540-A, U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1116; 400 w; 10c.

Duenas, Enrique I.—*La Mineria en Hualgayoc.* [Mining in Hualgayoc, Peru].—Inf. y Mem. Boletin Soc. Ing. Peru, Jan., 1913; p 1; 1800 w; 75c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Earl, T. C.—*Gold Dredging.* 208 pp. 20s (book).

Eddy, Lewis H.—*Deep Shaft Development at Placerville, California.*—E. & M. J., Dec. 6, 1913; p 1067; 1400 w; 25c.

Eddy, Lewis H.—*Natoma No. 7, a Cali-*

fornia All-Steel Dredge.—E. & M. J., Oct. 11, 1913; p 873; 1000 w*; 25c.

Eddy, Lewis H.—*New Gold Dredges for Alaska.*—E. & M. J., June 21, 1913; p 1251; 1200 w*; 25c.

Eddy, L. H.—*Repairing a California Gold Dredge.*—E. & M. J., Aug. 23, 1913; p 340; 1200 w; 25c.

Eddy, Lewis H.—*Righting an Overturned Gold Dredge.*—E. & M. J., Oct. 25, 1913; p 773; 2500 w*; 25c.

Edwards, W. W.—*Steel Sluiceway Linings.*—M. & S. P., Nov. 29, 1913; p 652; 1000 w; 20c.

Fairweather, Andrew.—*Open Stoping on Wide Lodes in Australia.* (Abstract from Proc. Australasian Inst. Mg. Engrs.)—Mg. & Eng. World, Dec. 27, 1913; p 1145; 2800 w; 10c.

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand, 142 pp*.

Gardber, W. H.—*Recent Placer Dredge Development in California.*—Steam Engg., Nov., 1913; p 335; 1200 w*; 20c.

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp.

Goodale, Stephen L.—*Clear Creek and Gilpin County Notes, Colorado.*—E. & M. J., Aug. 2, 1913; p 196; 2000 w*; 25c.

Grimes, Charles.—*Annual Report of Tom Reed Gold Mines Co., Arizona.*—Mg. & Eng. World, June 21, 1913; p 1197; 1100 w; 10c.

Gunsaulus, Edwin N.—*Rand Mine Blasting by Electricity.* (U. S. Consular Report).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 250 w; 10c.

Gwyn-Williams, R. H.—*Mining in Katanga, Central Africa.*—Mg. Jnl., London, Aug. 30, 1913; p 839; 3500 w*; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona During* 1912. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production Over* 1911 *by Nearly* $18,000,000 (Abstract from U. S. Geol. Surv. report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes, V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey; advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C.—*Precious and Semi-precious Metals in Montana in 1912.*—Mine Production.—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912 *Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 74 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden.* [Mining in the grand duchy of Baden, Germany].—Glückauf, June 21, 1913; p 974; 4800 w*; 50c.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Erz & Kohle, Aug. 15, 1913; p 808; 2500 w*; 35c.

Honnold, W. L.—*The Rand Gold Industry in* 1912. (Abstracted from Michigan Coll. of Mines Alumnus).—Canadian Mg. Jnl., Sept. 15, 1913; p 578; 2200 w; 35c.

Honnold, W. L.—*The Witwatersrand Gold Industry in* 1912.—M. & S. P., Aug. 2, 1913; p 182; 1700 w; 20c.

Howard, L. O.—*History of Milling at the Geyser-Marion and Sacramento Mines, Utah.*—S. L. Mg. Rev., Aug. 15, 1913; p 9; 5000 w*; 25c.

Howard, L. O.—*The American Flag Mine, Utah.*—S. L. Mg. Rev., Dec. 15, 1913; p 11; 4000 w*; 25c.

Hutchins, John Power.—*Dredging by Hand in Siberia.*—M. & S. P., Nov. 22, 1913; p 813; 1250 w*; 20c.

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Johnson, F. E.—*Gold Dredging at Ruby, Mont.*—S. L. Mg. Rev., Sept. 15, 1913; p 16; 1350 w*; 25c.

Kellogg, L. O.—*Stoping Methods at the North Star Mine.*—E. & M. J., Nov. 29, 1913; p 1011; 3000 w*; 25c.

King, Rufus.—*American Mining Interests in Central America.*—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

Klopstock, Paul.—*The Kennedy Mining District, Nevada.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 12, 1913; p 63; 3000 w; 10c.

Lawson, A. C.—*Gold and Coal Mines of Nova Scotia.*—Bull. 65, Mg. & Met. Soc. of Am., Oct. 31, 1913; p 281; 3 pp; 35c.

Lawson, Andrew C.—*The Gold of the Shinarump at Paria.*—Econ. Geol., Aug., 1913; p 434; 15 pp*; 65c.

Leeson, C. G.—*The Camanche Dredge, California.*—M. & S. P., Dec. 13, 1913; p 933; 1000 w; 20c.

Letcher, Owen.—*Rand Conditions and Future Outlook.*—M. & S. P., June 28, 1913; p 977; 3500 w*; 20c.

Letcher, Owen.—*The Van Ryn Deep Mine, South Africa.*—Mg. & Eng. World, June 21, 1913; p 1189; 1900 w*; 10c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the prov'nce of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

Maddren, A. G.—*The Koyukuk-Chandalar Region, Alaska.*—Washington, D. C.; Bulletin 532, U. S. Geol. Survey; 119 pp*.

Martin, A. H.—*Old California Producing Mines Reopened.* [Plymouth and Champion].—Mg. & Eng. World, July 5, 1913; p 9; 2000 w; 10c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Gold and Silver in* 1912—*General Report.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 55 pp.

McCaskey, H. D.—*Precious and Semi-precious Metals in the Eastern States in* 1912; *Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McLeisch, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Milton, Maxwell C.—*The Oro Blanco District of Arizona.*—E. & M. J., Nov. 29, 1913; p 1005; 1100 w*; 25c.

Myers, Thomas C.—*La Mazata Mine, Jalisco, Mexico.*—E. & M. J., Sept. 6, 1913; p 446; 500 w; 25c.

Of, *Charles.—The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Palmer, Leroy A.—*The Wasp No.* 2 *Mine and Mill, South Dakota.*—S. L. Mg. Rev., June 15, 1913; p 16; 3500 w*; 25c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Parker, E. W.—*Idaho Gains in Mineral Output in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1116; 250 w; 10c.

Parker, E. W.—*Production of Arizona in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 6, 1913; p 1026; 300 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. of U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Perry, O. B.—*The Yukon Gold Co., Y. T.* (Abstract of annual report).—M. & S. P., June 28, 1913; p 981; 1700 w; 20c.

Prest, Walter H.—*The Gold Fields of Nova Scotia.*—Industrial Advocate, Halifax, Sept., 1913; p 5; 5000 w; Oct., 1913; p 5; 3500 w; Nov., 1913; p 5; 5 pp*; $1.05.

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Sias, George W.—*Valdez Placer Mines.*—M. & P., Nov. 8, 1913; 1000 w; 20c.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.*—Mg. & Eng. World, July 19, 1913; p 115; 1300 w*; Aug. 9, 1913; p 255; 1200 w; 20c.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.* [Lundborg, Dorr & Wilson Plant; New Reliance].—Mg. & Eng. World, July 5, 1913; p 9; 2000 w*; 10c.

Simmons, Jesse.—*The Homestake and Wasp, Two Low-Grade Gold Mines.*—Mg. Mag., July, 1913; p 47; 1500 w*; 35c.

Smith, R. E., and Hann, H. G.—*Drilling Aluvium in Siberia.*—Mg. Mag., July, 1913; p 43; 2000 w*; 35c.

Smith, Sumner, S.—*Lode Mining in the Willow Creek District, Alaska.*—M. & S. P., Aug. 30, 1913; p 335; 4600 w*; 20c.

Stevens, Arthur W.—*Details of Flume Construction.*—E. & M. J., June 28, 1913; p 1289; 600 w*; 25c.

Storms, W. H.—*Sixty Years of Mining in California.*—Mg. & Eng. World, Aug. 2, 1913; p 213; 2200 w; Sept. 6, 1913; p 426; 4000 w; Sept. 20, 1913; p 426; 4000 w; 30c.

Taylor, L. H., Jr.—*Salted Drill Samples of Elliptic Mine.*—E. & M. J., Aug. 9, 1913; p 269; 900 w; 25c.

Thom, W. T.—*Record Mineral Production of the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Tod, Grant H.—*Preparatory Work of the Alaska Gold Mines Company.*—M. & S. P., Aug. 2, 1913; p 184; 900 w*; 20c.

Troye, G. A.—*The Future of the Rand.*—Mg. Mag., July, 1913; p 50; 3500 w*; 35c.

Umpleby, J. B.—*Important Mining Districts in Lemhi County, Idaho.* (Abstract from Bull. 528, U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 1, 1913; p 794; 750 w; 10c.

Ward, William F.—*Nechi River Placer Mining, Colombia.*—E. & M. J., Aug. 16, 1913; p 297; 3000 w*; 25c.

Ward, Wm. F.—*Placer Mining on the Cauca River in Colombia, S. A.*—Mex. Mg. Jnl., Aug., 1913; p 378; 3000 w*; 35c.

Warriner, R. C.—*Equipment at the Crown Mines on the Rand.* (Abstract of paper read before S. Af. Assn. Engrs.).—M. & S. P., July 5, 1913; p 13; 1600 w; 20c.

Weatherbe, D'Arcy.—*Dredging Discrepancies.*—Mg. Mag., Nov., 1913; p 347; 6 pp*; 35c.

Webb, H. H.—*Selective Mining in the Gold Fields Mines, S. Africa.*—M. & S. P., Nov. 29, 1913; p 860; 1500 w; 20c.

Welhaven, Alf.—*Work of the Oriental Consolidated Mines, Korea.*—M. & S. P., Nov. 29, 1913; p 857; 2000 w*; 20c.

Weston, E. M.—*Conditions in Prominent Rand Mines.*—E. & M. J., July 12, 1913; p 49; 500 w*; 25c.

Wolf, J. H. G.—*The Mother Lode of California.*—M. & S. P., June 21, 1913; p 934; 4000 w*; June 28, 1913; p 983; 4000 w*; 40c.

Woodward, G. C.—*Reported Gold Strike in the Shushana Region, Alaska.* (U. S. Consular Report).—Mg. & Eng. World, Aug. 30, 1913; 800 w; 10c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*Precious and Semi-precious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

———. *Annual Report of the Director of the Mint for the Fiscal Year Ended June* 30, 1912, *and Also Report on the Production of the Precious Metals in the Calendar Year* 1911.—Document No. 2671, U. S. Treasury Dep.; 317 pp.

——— *Annual Report of Granby Con.*

Co., B. C.—B. C. Mg. Exch., Oct., 1913; p 5; 4300 w; 35c.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarized by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Big increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 15, 1913; p 468; 700 w; 10c.

———. *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *California's Varied Mineral Production.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 890; 500 w; 10c.

——— *Conditions in Rhodesia.*—Mg. Jnl., London, July 26, 1913; p 705; 2500 w; 35c.

——— *Costs at the Hollinger Mine, Ontario.*—E. & M. J., Oct. 18, 1913; p 739; 500 w; 25c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Developments in the Black Hills, South Dakota.*—E. & M. J., Sept. 13, 1913; 1200 w; 25c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 15, 1913; p 502; 3200 w; 35c.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—Bergwerks-Ztg., Aug. 1, 1913; p 285; 1000 w; Aug. 12, 1913; p 1; 1800 w; Aug. 13; 1000 w; Aug. 14; 1600 w; Aug. 15; 900 w; $1.75.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

——— *Die Minenindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

——— *Dredging at Snelling, California.*—M. & S. P., Dec. 27, 1913; p 1002; 1000 w*; 20c.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——— *Gold in Surinam, Dutch Guiana.*—M. & S. P., Dec. 27, 1913; p 1021; 500 w; 20c.

———. *Goldfield Consolidated Cost Curves.*—E. & M. J., July 26, 1913; p 151; 100 w*; charts; 25c.

——— *India's Mineral Production.* (Abstract of Indian Geol. Surv. report).—Mg. Wld. & Engg. Rec., London, Sept. 27, 1913; p 376; 1800 w; 35c.

——— *Indian Mines in* 1912. (Abstract from India Geol. Surv. report).—Mg. Jnl., Oct. 18, 1913; p 982; 1600 w; 35c.

———. *Ingenious Placer Operations Near Manhattan, Nevada.*—Mg. & Eng. World, Aug. 2, 1913; p 200; 700 w; 10c.

——— *La Clara Hydraulic Mine, Colombia.*—E. & M. J., Dec. 13, 1913; p 1114; 1000 w*; 25c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—Revista Minera, Sept. 1, 1913; p 421; 1500 w; Sept. 8; p 433; 1500 w; 70c.

———. *L'Industrie Minérale de L'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 1100 w; 35c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c.

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

——— *Mine and Mill Costs at the Tomboy Mines, Colorado.*—Mg. & Eng. World, Nov. 15, 1913; p 876; 600 w; 10c.

———. *Mine Production of Colorado in* 1912. (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

———. *Mineral Industry in California in* 1912. (Report of California State Mining Bureau; abstract).—Mg. & Eng. World, July 5, 1913; p 8; 600 w; 10c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report U. S. Geol. Surv.).—M. & S. P., Dec. 13, 1913; p 930; 200 w; 20c.

——— *Mineral Production of New Zealand in* 1912.—E. & M. J., Dec. 6. 1913; p 1116; 300 w; 25c.

——— *Mining costs at the Oroya Black Range Mine, Western Australia.*—M. & S. P., Dec. 13, 1913; p 934; 150 w; 20c.

———. *Mining Enterprises in South China.* (U. S. Consular report; abstract).—Mg. & Eng. World, July 5, 1913; p 11; 200 w; 10c.

———. *Mining Operations in Montana in* 1913 *Greatest in State's History.*—Mg. & Eng. World, Dec. 20, 1913; p 1109; 650 w; 10c.

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——— *Mining in Tasmania in* 1912.—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1700 w; 35c.

——— *Mining in Victoria in* 1912.—Mg. Jnl., London, Nov. 29, 1913; p 1129; 1200 w; 35c.

———. *Mining on the Suan Concession.* (Abstract from engineer's report).—M. & S. P., Aug. 16, 1913; p 256; 4000 w*; 20c.

——— *Montana's Metal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

——— *New Canadian Dredges.* [In the Bonanza basin].—M. & S. P., Sept. 20, 1913; p 460; 1700 w; 20c.

——— *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines report).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

——— *Rapport des Ovérations Minières dans la Province de Québec Durant l'An-*

née 1912. [Report on the mining operations in the Province of Quebec during the year 1912].—Bureau of Mines, Department of Colonization, Mines and Fisheries, Province of Quebec, Canada; 2600 pp*.

———. *Reopening the Hillabee Mine* [Alabama].—M. & S. P., July 19, 1913; p 107; 500 w; 20c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June* 30, 1912.—U. S. Dept. of the Interior; 24 pp.

——— *Report on Mining Operations in the Province of Quebec During the Year 1912.*—Dep. of Colonization, Mines & Fisheries, Quebec, Canada; 241 pp*.

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

——— *South Dakota Mine Inspector's Report.*—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

——— *Tasmanian Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

——— *Temperatures at the Morro Velho Mine, Brazil.*—M. & S. P., Sept. 6, 1913; p 380; 1300 w*; 20c.

——— *The Mining Industry in Queensland.*—Mg. Jnl., London, Nov. 8, 1913; p 1051; 2500 w; 35c.

——— *The Mining Industry in South Africa.*—Mg. Jnl., London, Oct. 25, 1913; p 1005; 2500 w; 35c.

———. *The Treadwell Group of Mines, Alaska, in* 1912. (Abstract of annual report).—M. & S. P., June 21, 1913; p 939; 5000 w*; 20c.

——— *Work at the Alaskan Gastineau.* (Abstract from Hayden-Stone circular).—E. & M. J., Oct. 18, 1913; p 748; 1100 w*; 25c.

——— *Zur Kenntnis der Berg- und Hüttenindustrie in China.* [Concerning the mining and metallurgical industries in China].—Berg & Hüttenmännische Rundschau, Sept. 20, 1913; p 309; 2800 w; 35c.

Milling, Metallurgy, Assaying, Etc.

See also under Mill and Milling.

Allen, A. W.—*Colloids in Ore Dressing.*—M. & S. P., July 19, 1913; p 109; 1000 w; 20c.

Allen, A. W.—*Solution Control in Cyanidation.*—M. & S. P., Sept. 30, 1913; p 448; 5200 w; 20c.

Allen, A. W.—*The Simplification of Gold Ore Treatment.*—M. & S. P., Aug. 16, 1913; p 254; 3000 w; 20c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice,* 1910 *to* 1913.—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Bernewitz, M. W. von.—*Lead Salts in Cyanidation.*—M. & S. P., Nov. 15, 1913; p 757; 4500 w; 20c.

Bernewitz, M. W. von.—*Smelting at Campo Seco, California.*—M. & S. P., Dec. 6, 1913; p 897; 1200 w*; 20c.

Brokaw, A. D.—*The Precipitation of Gold by Manganous Salts* (Paper presented at Milwaukee meeting of Am. Chem. Soc.).—Jnl. Ind. & Eng. Chem., July, 1913; p 560; 1000 w; 65c. M. & S. P., July 26, 1913; p 149; 1000 w*; 20c.

Caetani, Gelasio.—*Economics of Milling.*—Mg. Mag., London, Aug., 1913; p 125; 4700 w*; 35c.

Caldecott, W. A.—*Weight of Tube Mill Pebble Loads* (From Jnl. Chem. Met. & Mg. Soc., S. Afr., Feb., 1913).—Met. & Chem. Eng., July, 1913; p 417; 500 w; 35c.

Carpenter, Jay A.—*Operation of the West End Mill, Tonopah, Nevada.*—M. & S. P., Aug. 2, 1913; p 191; 2000 w; 20c.

Cohen, Louis.—*Some Interesting Experiments in Cyanidation.* (Abstract of paper read before Teknik Club, Denver).—Mg. & Eng. World, Nov. 22, 1913; p 933; 1400 w; 10c.

Del Mar, Algernon.—*Requirements of Small Cyanide Mills.*—E. & M. J., Oct. 25, 1913; p 769; 1700 w*; 25c.

Dorr, John V. N.—*Counter-Current Decantation of Slime.*—E. & M. J., Aug. 9, 1913; p 270; 550 w; 25c.

Eddingfield, F. T.—*Gogo, and Its Effect on Gold and Gold Solutions.* [Gogo (plant) juice is used by Philippine natives in panning gold-bearing sands].—Phil. Jnl. Sci., April, 1913; p 135; 5 pp; 65c.

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Flagg, A. L.—*Concentrating High-Grade Fines by Hand.*—E. & M. J., July 12, 1913; p 69; 900 w; 25c.

Frary, Francis C.—*The Electrodeposition of Gold and Silver.*—Trans. Am. Electrochem. Soc., Vol. 23; p 25; 18,000 w.

Goodale, Stephen L.—*Leasing and Low-Grade Milling at Cripple Creek.*—M. & S. P., Aug. 23, 1913; p 297; 5500 w*; 20c.

Gray, James, and Toombs, Chris.—*The Determination of Gold in the Presence of Iridium and Allied Metals in Materials Such as Black Sand.* [Winners of prize offered by Witwatersrand Co-operative Smelting Works].—Jnl. Chem., Met. & Mg. Soc. S. Af., July, 1913; p 2; 7 pp; 75c.

Green, Morris.—*Charcoal as a Precipitant in Cyaniding.* (Abstract from Bull. 109, Inst. Mg. & Met.).—Mg. & Eng. World, Nov. 15, 1913; p 873; 4000 w; 10c.

Grout, Frank F.—*The Behavior of Cold Acid Sulphate Solutions of Copper, Silver and Gold with Alkaline Extracts of Metallic Sulphides.*—Econ. Geol., Aug., 1913; p 407; 27 pp; 65c.

Guglialmelli, Luis.—*Acción de la Plata Coloidal sobre los Cloruros de Oro y de Platino.* [Action of coloidal silver on the chlorides of gold and platinum. A new method for obtaining coloidal gold].—Anales Soc. Cient. Argentina, Jan., 1913; p 41; 2800 w; $1.75.

Hall, E. J., and Drury, C. W.—*Assay of Gold and Silver by Iron-Nail Method.* (Abstracted from Bull. Am. Inst. Mg. Engrs., June, 1913).—E. & M. J., Dec. 13, 1913; p 1125; 2300 w; 25c.

Heym, Ingenieur.—*Die Behandlung des Edelerzschlammes;* [The treatment of precious-metal-ore slime].—Kali, Erz & Kohle, June 5, 1913; p 556; 1000 w; 35c.

Hillmann, Walter.—*Ueber Goldersbereitung.* [The treatment of gold ores] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 689; 22,500 w*; 50c.

Howe, Ben.—*New Process of Gold Recovery by Volatilisation.* (Abstract from Jnl. Chamb. Mines, W. Aust.).—Mex. Mg. Jnl., June, 1913; p 292; 1500 w; 25c.

Jones, A. H.—*Precipitate Melting at the New Belmont Mill, Nevada.*—E. & M. J., June 14, 1913; p 1197; 650 w*; 25c.

Laucks, I. F.—*Principles and Methods of*

Ore Testing.—E. & M. J., July 12, 1913; p 51; 1200 w; 25c.

Lenher, Victor.—*Volumetric Determination of Gold.* (Abstract from Jnl. Am. Chem. Soc.).—M. & S. P., June 21, 1913; p 942; 2500 w; 20c.

Letcher, Owen.—*New Treatment Plants in Rhodesia.*—M. & S. P., Nov. 15, 1913; p 761; 4000 w; 20c.

Lyon, Dorsey A. and Kenney, Robert M. —*Possible Applications of Electric Furnaces to Western Metallurgy.* (Paper read before Am. Electrochem. Soc.).—M. & S. P., Nov. 1, 1913; p 686; 7000 w; 20c.

MacDonald, William.—*Vacuum Filtration at the Victoria Mill of the Waihi Gold Mining Co., Ltd., New Zealand.*—Jnl. Chem., Met. & Mg. Soc. of S. Afr., May, 1913; p 527; 7000 w*; 50c.

McDonald, William.—*Vacuum Filtration at the Waihi Mine, South Africa.* (Abstract from Jnl. Chem., Met. & Mg. Soc. S. Afr.). —M. & S. P., Oct. 18, 1913; p 617; 1000 w*; 20c.

Martin, A. H.—*Gold Milling Progress in California.*—Met. & Chem. Engg., Nov., 1913; p 640; 2000 w*; 35c.

Megraw, Herbert A.—*Calculation of Extraction in Cyanidation.*—E. & M. J., Sept. 6, 1913; p 441; 3000 w; 25c.

Megraw, Herbert A.—*Ores Amenable to Cyanidation.*—E. & M. J., Oct. 4, 1913; 6000 w; 25c.

Megraw, Herbert A.—*The Black Oak Cyanide Plant, California.*—E. & M. J., June, 1913; p 292; 1500 w; 25c.

Megraw, Herbert A.—*The Gold Road Cyanide Mill, Arizona.*—E. & M. J., July 5, 1913; p 3; 3000 w*; 25c.

Merton, A. M.—*Mexican Method of Retorting Amalgam.*—E. & M. J., Aug. 9, 1913; p 263; 800 w*; 25c.

Merton, A. M.—*Zinc-Dust Precipitation of Gold and Silver.*—Mg. & Eng. World, Sept. 6, 1913; p 429; 2500 w; 10c.

Neumann, B.—*Das Metallhüttenwesen im Jahre, 1912.* [Metallurgy in 1912].—Glückauf, Oct. 25, 1913; p 1766; 4600 w; 50c.

Ortin, M. F.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken;* [The smelting of gold and silver-bearing copper ores at the Blagodatny Works].—Metall & Erz, June 22, 1913; p 543; 6500 w*; July 8; p 586; 4400 w*; July 22, 1913; p 612; 13,000 w*; Oct. 8, 1913; p 799; 3500 w*; Oct. 22, 1913; p 835; 1800 w*; $2.

Ortin, M. F., and Ropp, Baron A. v. d.— *Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken.* [Discussion of Mr. Ortin's article "The smelting of gold and silver-bearing ores at the Blagodatny works"].—Metall & Erz, Nov. 8, 1913; p 874; 1200 w; 50c.

Palmer, Chase, and Bastin, Edson S.— *The Role of Certain Metallic Minerals in Precipitating Gold and Silver.* (Paper read before Am. Inst. Mg. Engrs.; continuation). —Mg. Jnl., London, June 7, 1913; p 564; 2800 w; 35c.

Parmelee, H. C.—*Cyanide Practice in the Black Hills, South Dakota.*—Met. & Chem. Eng., July, 1913; p 395; 6000 w; Aug., 1913; p 435; 4500 w; Sept., 1913; p 500; 3200 w*; $1.05.

Rácz, Karl v.—*Kritische Bemerkungen über Golderzaufbereitungs - Einrichtungen und Methoden.* [Critical remarks on equipment and methods for the treatment of gold ores].—Montan-Ztg., Nov. 15, 1913; p 424; 600 w; 35c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—New York and London; 452 pp*; $4.50; (book).

Schrader, Erich J.—*Slow-Speed Chilean Mill Data.*—M. & S. P., July 26, 1913; p 136; 900 w; 20c.

Sharwood, W. J.—*Calculation of Extraction in Cyanidation.* [Communication].— E. & M. J., Nov. 15, 1913; p 937; 3600 w; 25c.

Shaw, R. H.—*Design for an Air Lift for Elevating Pulp in Cyanide Plants.*—Mg. & Eng. World, Nov. 29, 1913; p 966; 100 w*; 10c.

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver and Platinum, and the Platinum Group Metals in Ores, Bullion and Products.* 460 pp. $4.50 (book).

Spicer, H. N.—*Evolution of Methods of Handling Slime, the Rand, South Africa.*— Met. & Chem. Eng., July, 1913; p 408; 2300 w*; Aug., 1913; p 451; 4000 w*; Mg. & Eng. World, Oct. 25, 1913; p 737; 400 w; $1.05.

Stone, S. R.—*Plant of the Brakpan Mines, South Africa.*—Mg. & Eng. World, Dec. 20, 1913; p 1100; 2600 w*; 10c.

Symmes, Whitman.—*The Symmes Agitator.*—M. & S. P., July 19, 1913; p 92; 1800 w*; 20c.

Wettich, Dipl.-Ing.—*Der Aufbereitungsgang des Golderzes in den Werken der Brakpan Mines, Ltd., Johannesburg, und die Einrichtung zur Entfernung der Sandrückstände.* [The method of preparation of gold ores in the works of the Brakpan Mines, Ltd., and the plant for separating the sand residues].—Metall & Erz., Dec. 8, 1913; p 934; 3500 w*; 50c.

Willfley, C. R.—*Electrostatic Separation of Barstow Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

Wright, H. B.—*Slime Agitation.*—Monthly Jnl. Chamb. of Mines, W. Aust., June 30, 1913; p 121; 1700 w*; 35c.

———. *Empire Hydraulic Elevator.*—E. & M. J., Dec. 13, 1913; p 1123; 1000 w*; 25c.

———. *Equipment of the City Deep Mine.*—S. Af. Engr., June, 1913; p 121; 2300 w*; 35c.

———. *Gold Milling in China.*—M. & S. P., Aug. 9, 1913; p 227; 500 w*; 20c.

———. *Mill Cost Data of the Goldfield Consolidated Milling & Transportation Co.*— E. & M. J., July 19, 1913; p 124; 2 pp diagrams; 25c.

———. *The Dimensions of Tube Mills.* (Abstract from S. Af. Mg. Jnl.).—Mg. & Eng. World, Nov. 29, 1913; p 974; 300 w; 10c.

———. *The McIntyre-Porcupine Mill, Ontario.*—M. & S. P., July 12, 1913; p 52; 500 w; 20c.

———. *Tom Reed and Vulture Cyanide Mills, Arizona.*—E. & M. J., Aug. 2, 1913; p 199; 3100 w*; 25c.

———. *The "State Mines" Plant, Transvaal.*—S. Afr. Mg. Jnl., Oct. 18, 1913; p 163; 750 w; 35c.

Geology

Baker, Henry D.—*Modern Methods in Indian Gold Mining.* (U. S. Consular report; abstract).—Mg. & Eng. World, Sept. 27; p 560; 2600 w; 10c.

Barnes, Corrin, and Byler, E. A.—*Rela-*

tion of Faulting and Mineralization in Goldfield.—M. & S. P., July 12, 1913; p 59; 1500 w*; 20c.

Brouard, Charles A.—*The Geology and Mining Possibilities of Northwestern Persia and Karadagh.*—Mg. Jnl., London, Nov. 29, 1913; p 1131; 3800 w; 35c.

Brown, E. Percy.—*Some Characteristics of the Gold-Bearing Veins of Nova Scotia.*—Can. Mg. Jnl., June 1, 1913; p 345; 3000 w*; 35c.

Crawford, R. D.—*Geology and Ore Deposits of the Monarch and Tomichi Districts, Colorado.*—Bull. 4, Colo. Geol. Surv.; 317 pp*.

Eddingfield, F. T.—*Alteration and Enrichment in Calcite-Quartz-Manganese Gold Deposits in the Philippine Islands.*—Philippine Jnl. of Sci., April, 1913; p 125; 10 pp; 65c.

Eddingfield, F. T.—*Occurrence of Vein and Placer Gold, P. I.* (Abstract from Philippine Jnl. Sci.).—Mg. & Eng. World, Sept. 13, 1913; p 471; 1800 w*; 10c.

Eddingfield, F. T.—*Ore Deposits of the Philippine Islands.*—Phil. Jnl. Sci., April, 1913; p 81; 24 pp*; 65c.

Emmons, William Harvey.—*The Enrichment of Sulphide Ores.*—Bull. 529, U. S. Geol. Surv.; 260 pp.

Faribault, E. R.—*The Gold Deposits of Nova Scotia.* [Extracts from Guide Book No. 1, Canadian Geol. Surv.).—Canadian Mg. Jnl., Nov. 15, 1913; p 708; 2700 w; Dec. 15, 1913; p 780; 2500 w; 70c.

Hore, Reginald E.—*Gold Deposits of the Porcupine District, Ontario.*—Econ. Geol., Aug., 1913; p 482; 7 pp*; 65c.

Hore, Reginald E.—*Kirkland Lake Gold Deposits, Ontario.*—Canadian Mg. Jnl., July 15, 1913; p 424; 4000 w*; 35c.

Hore, Reginald E.—*On the Origin of the Porcupine Gold Deposits.* (Paper read before Canadian Mg. Inst.).—Canadian Mg. Jnl., Sept. 1, 1913; p 548; 4000 w; 35c.

Horwood, C. B.—*The Rand Banket and Its Gold Content.*—M. & S. P., Oct. 11, 1913; p 563; 6500 w*; Oct. 18; 9000 w*; Oct. 25; p 647; 6000 w*; Dec. 20; p 956; 10,500 w*; Dec. 27; p 1003; 14,000 w*; $1.

Key, A. Cooper.—*The Rand's Ore Reserves.*—E. & M. J., July 26, 1913; p 152; 750 w; 25c.

Knopf, Adolph.—*Ore Deposits of the Helena Mining Region, Montana.*—Bull. 527, U. S. Geol. Surv.; 143 pp*.

Maclaren, Malcolm, and Thompson, J. Allan.—*Geology of the Kalgoorlie Goldfield.*—M. & S. P., July 12; p 45; 3500 w*; July 19; p 95; 4700 w*; Aug. 2, 1913; p 187; 3800 w; Aug. 9, 1913; p 228; 6000 w; Sept. 6, 1913; p 374; 5800 w; 80c.

Nicholson, H. H.—*Gold Deposits and Their Associated Minerals.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. Sci., Aug., 1913; p 96; 3 pp; 35c.

Patton, Horace B., Hoskin, Arthur J., and Butler, G. Montague.—*Geology and Ore Deposits of the Alma District, Park County, Colorado.*—Bull. 3, Colo. State Geol. Surv.; 284 pp*.

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Kolorado)*; [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913; p 885; 1900 w*; 50c.

Smith, Philip S.—*The Fineness of Gold in the Fairbanks District, Alaska.*—Econ. Geol., Aug., 1913; p 449; 6 pp; 65c. Abstract in Mg. & Eng. World, Oct. 18, 1913; p 693; 2200 w; 10c.

Stewart, R. B.—*West Shining Tree Area, Ontario.* (Abstract from annual report Bureau of Mines, Ontario).—Canadian Mg. Jnl., Nov. 15, 1913; p 696; 1400 w*; 35c.

Stutzer, O.—*Ueberblick über die nutzbaren Lagerstätten Katangas.* [A survey of the useful deposits of Katanga, Belgian Congo].—Metall & Erz, Aug. 30, 1913; p 679; 3300 w*; 50c.

Taber, Stephen.—*Geology of the Gold Belt in the James River Basin, Virginia.*—Charlottesville, Va.; Bulletin No. 7 Virginia Geol. Surv.; 271 pp*.

Thiel, H., and Müller, H.—*The Gold-Copper Ore Deposits of the Guanaco, Chile.* (Translation from Die Zeitschrift für praktische Geologie, July, 1913).—Mg. Jnl., London, July 26, 1913; p 719; 1100 w; 35c.

Thompson, Phillips.—*The Chisana Gold District of Alaska.*—E. & M. J., Nov. 29, 1913; p 1040; 1000 w; 25c.

Toll, Rensselaer H.—*La Plata Mountains, Colorado.*—M. & S. P., Nov. 29, 1913; p 849; 2200 w*; 20c.

Tyrrell, J. B.—*The Occurrence of Gold in Ontario.* (Abstract from Bull. 110, Inst. of Mg. & Met.).—Mg. & Eng. World, Dec. 20, 1913; p 1103; 4000 w; 10c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14, 1913; p 898; 3500 w*; June 21, 1913; p 947; 3200 w*; 40c.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canad Dept. of Mines, Geol. Survey; 62 pp*.

———. *Alaska Coast Development; Ketchikan.*—Alaska & N. W. Mg. Jnl., Nov., 1913; p 81; 4200 w*; 30c.

———. *Les Gisements Aurifères du Département de l'Aude.* [The auriferous deposits of the department of Aude, France].—Echo des Mines, Oct. 6, 1913; p 1020; 1500 w; 35c.

———. *The Rand's Ore Reserves.*—S. Af. Mg. Jnl., Johannesburg, May 24, 1913; p 311; 2500 w; Oct. 18, 1913; p 165; 800 w; 70c.

Miscellaneous

Cremer, Oberbergrat.—*Bericht über eine Reise in der Chinesischen Provinz Szetchuan;* [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in 1911 and 1912.*—Advance chapter from Mineral Resources of U. S.; 9 pp.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year 1911.*—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Fiegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Hobson, J. A.—*Gold, Prices and Wages.*—London, Methuen & Co.; New York, George H. Doran Co.; 181 pp; $1.25 (book).

Lejeune, Arthur S.—*Mine Sampling and Ore Valuation on the Rand.* (Fifth article).—S. Af. Mg. Jnl., May 17 and 24, 1913; 2500 w*; June 21, 1913; p 439; 1200 w*; $1.05.

Locke, Ernest G.—*The Re-Awakening of an Old Placer Camp, American Cañon, Nev.*—M. & S. P., Sept. 6, 1913; p 373; 700 w; 20c.

Maguire, Don and Howard, L. O.—*The Romance of a Famous Gold Mine.* (The Mercury Mine, Utah).—S. L. Mg. Rev., June 30, 1913; p 13; 4500 w*; 25c.

Purdue, A. H.—*The Minerals of Tennessee; Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Sheldon, G. L.—*"High Grading."*—E. & M. J., Nov. 15, 1913; p 932; 1600 w; 25c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 15, 1913; p 877; 3500 w; 10c.

Trenkner.—*The Quantitative Determination of the Precious Metals, Gold, Silver and Platinum.* (Translated from Metallurgie).—Met. & Chem. Engg., Oct., 1913; p 567; 2000 w; 35c. Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

Wade, W. Rogers.—*Minerals of the Tres Hermanas District, New Mexico.*—E. & M. J., Sept. 27, 1913; p 589; 1100 w; 25c.

Warriner, R. C.—*Centralized Organization at the Crown Mines, South Africa.* (Paper read before S. Af. Inst. Engrs.).—S. Af. Engg., London, May, 1913; (first installment); p 105; 7000 w*.

Weston, Eustace.—*Gold Production in Relation to Humanity.*—Jnl. Chem., Met. & Mg. Soc. S. Af., April, 1913; p 472; 8000 w; 50c.

Wolff, Th.—*Das Gold der Alten;* [The gold of the ancients].—Bergwerks-Ztg., June 26, 1913; p 1; 900 w; June 27; p 1; 900 w; 70c.

———. *Colombian Mines and the Panama Canal.*—Mg. Jnl., London, June 21, 1913; p 593; 1300 w; 35c.

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

——— *Experiences at Shushanna, Alaska.* (Abstracts from Wallace, Idaho, Miner).—E. & M. J., Oct. 11, 1913; p 675; 700 w; 25c.

———. *Gold in the World's Banks.* (From London Statist).—M. & S. P., Aug. 2, 1913; p 183; 200 w; 20c.

——— *Map of the Shushanna District, Alaska.*—E. & M. J., Sept. 13, 1913; p 438; 100 w*; 25c.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

———. *New York Assay Office Gold Sales.*—Mg. & Eng. World, Aug. 16, 1913; p 398; 150 w; 10c.

——— *Rates of Wages and Costs of Living at Four Representative Mines on the Rand.*—S. A. Mg. Jnl., Aug. 16, 1913; p 639; 6000 w; 35c.

———. *The Beatty-Guggenheim Case.*—E. & M. J., July 12, 1913; p 84; 1800 w; 25c.

———. *The Witwatersrand Strike* (Editorial).—E. & M. J., July 12, 1913; p 81; 400 w; 25c.

SILVER

Mines, Mining, Geology

Allen, Carl A.—*The Platoro District, Colorado.*—E. & M. J., Sept. 27, 1913; p 575; 2400 w*; 25c.

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Biesel, Charles.—*Properties of Mines Co. of America.* (Abstract from annual report).—M. & S. P., June 14, 1913; p 903; 7000 w*; 20c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 261; 2200 w; 25c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Brinker, Arthur C.—*Geology at Santa Eulalia, Chihuahua, Mexico.* (Abstract from annual report).—M. & S. P., June 14, 1913; 2200 w*; 20c.

Brooks, Alfred H.—*Mineral Production of Alaska in* 1912. (From advance chapter Mineral Res. U. S.).—Mg. & Eng. World, Aug. 23, 1913; p 335; 4500 w; 10c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Collins, W. H.—*The Geology of Gowgandia Mining Division.*—Memoir No. 33, Canada Dep. of Mines, Geol. Survey; 121 pp*.

Crawford, R. D.—*Geology and Ore Deposits of the Monarch and Tomichi Districts, Colorado.*—Bull. 4, Colo. Geol. Surv.; 317 pp*.

Dueñas, Enrique I.—*La Mineria en Hualgayoc.* [Mining in Hualgayoc, Peru].—Inf. y Mem. Boletin Soc. Ing. Peru, Jan., 1913; p 1; 1800 w; 75c.

Dunlop, J. P.—*Record Metal Production in Missouri.* (Advance report U. S. Geological Survey).—Mg. & Eng. World, June 14, 1913; p 1132; 550 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Emmons, William Harvey.—*The Enrichment of Sulphide Ores.*—Bull. 529, U. S. Geol. Surv.; 260 pp.

Flores, Teodoro.—*Algunos Datos Relativos a la Mina de "La Delfina," Distrito de Bravos, Estado de Guerrero, Mex.* [Data relating to La Delfina mine, Bravos district, State of Guerrero, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 9; 2600 w*; $2.

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp. Abstract in Mg. & Eng. World, Aug. 2, 1913; p 216; 250 w; 10c.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona During* 1912. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production Over* 1911 *by Nearly* $18,000,000. (Abstract from U. S. Geol. Surv. report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes, V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey; advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C.—*Precious and Semi-precious Metals in Montana in* 1912.—Mine Production.—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 74 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden;* [Mining in grand duchy of Baden, Germany)].—Glückauf, June 14, 1913; p 932; 6000 w*; June 21, 1913; p 974; 4800 w*; $1.

Hershey, Oscar H.—*Origin of Lead, Zinc and Silver in the Coeur d'Alene, Idaho.*—M. & S. P., Sept. 27, 1913; p 489; 5500 w; Oct. 4, 1913; p 529; 6000 w; 40c.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Erz & Kohle, Aug. 15, 1913; p 808; 2500 w*; 35c.

Higgins, Will C.—*The Bingham Mines of the U. S. Mining Co., Utah.*—S. L. Mg. Rev., Nov. 15, 1913; p 11; 2500 w*; 25c.

Hore, Reginald E.—*Methods of Mining at Cobalt, Ontario.*—Canadian Mg. Jnl., Aug. 1, 1913; p 476; 1500 w*; 35c.

Howard, L. O.—*The American Flag Mine, Utah.*—S. L. Mg. Rev., Dec. 15, 1913; p 11; 4000 w*; 25c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Knopf, Adolph.—*Ore Deposits of the Helena Mining Region, Montana.*—Bull. 527, U. S. Geol. Surv.; 143 pp*.

Leroy, O. E.—*Silver, Lead and Zinc Deposits of Slocan, B. C.* (Extracts from Guide Book No. 9, Geol. Surv. of Canada).—Canadian Mg. Jnl., Sept. 15, 1913; p 580; 1300 w; 35c.

Livermore, Robert.—*Development and Costs at the Kerr Lake, Ontario.* (Abstract of annual report).—Mg. & Eng. World, Oct. 4, 1913; p 605; 2900 w; 10c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Gold and Silver in* 1912—*General Report.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 55 pp.

McCaskey, H. D.—*Precious and Semiprecious Metals in the Eastern States in* 1912; *Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Miller, Willet G.—*The Cobalt Area, Ontario.* (Extracts from Guide Book No. 7, published by Geol. Surv. of Canada for Int. Geol. Congress).—Canadian Mg. Jnl., Sept. 1, 1913; p 543; 3000 w; Sept. 15, 1913; p 574; 3600 w; 70c.

Milton, Maxwell C.—*The Oro Blanco District of Arizona.*—E. & M. J., Nov. 29, 1913; p 1005; 1100 w*; 25c.

Nichols, Ralph.—*The Lead-Silver Mines of Gilmore, Lemhi County, Idaho.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 27, 1913; p 1158; 1100 w*; 10c.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Parker, E. W.—*Production of Arizona in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 6, 1913; p 1026; 300 w; 10c.

Parker, E. W.—*Idaho Gains in Mineral Output in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1116; 250 w; 10c.

Patton, Horace B., Hoskin, Arthur J., and Butler, G. Montague.—*Geology and Ore Deposits of the Alma District, Park County, Colorado.*—Bull. 3, Colo. State Geol. Surv.; 284 pp*.

Prest, Walter H.—*The Gold Fields of Nova Scotia.*—Industrial Advocate, Halifax, Nov., 1913; p 5; 5 pp*; 35c.

Reid, Fraser.—*Milling Practice in the Cobalt Camp.* (Paper read before Int. Geol. Congress, Cobalt).—Canadian Mg. Jnl., Sept. 1, 1913: p 542; 2300 w; 35c.

Rice, Claude T.—*The Newer Developments at Butte Mines.*—Mg. & Eng. World, July 19, 1913; p 99; 5700 w*; 10c.

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Colorado)*: [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913: p 935; 1940 w*; 50c.

Severy, C. L.—*Diamond Drilling at the Pedregoso Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Shannon, Earl V.—*Secondary Enrichment in the Caledonia Mine, Coeur d'Alene District, Idaho.*—Economic Geol., Sept., 1913; p 545; 6 pp; 65c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 29, 1913; p 943; 2500 w*; 20c.

Tait, P. G.—*The Magnet Silver-Lead Mine, Tasmania* (Abstract from Mg. & Eng. Rev.).—M. & S. P., July 19, 1913; p 103; 1200 w; 20c.

Thom, W. T.—*Record Mineral Production of the United States in 1912.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Tyrrell, J. B.—*Silver Veins in South Lorrain, Ontario.*—Can. Mg. Jnl., June 1, 1913; p 329; 1900 w; 35c.

Umpleby, Joseph B.—*Mines of the Texas District, Lemhi County, Idaho.* (Abstract from Bull. 529, U. S. Geol. Surv.).—Mg. Sci., Nov., 1913; p 272; 2000 w*; 35c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14, 1913; p 939; 3500 w*; June 21, 1913; p 947; 3200 w*; 40c.

Wilson, Maclay R.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dept. of Mines, Geol. Survey; 52 pp*.

Yale, Chas. G.—*Mine Production of Oregon in 1912.* (Advance chapter Min. Res. U. S., abstract.)—Mg. & Eng. World, Sept. 20, 1913; p 524; 700 w; 10c.

Yale, Charles G.—*California Mineral Production in 1912.* (Advance chapter Min. Res. U. S. Geol. Surv.)—Mg. & Eng. World, Oct. 4, 1913; p 534; 1500 w; 10c.

Yale, Charles G.—*Precious and Semi-precious Metals in California and Oregon in 1912.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

———. *Annual Report of the Director of the Mint for the Fiscal Year Ended June 30, 1913, and Also Report on the Production of the Precious Metals in the Calendar Year 1912.*—Document No. 2872, U. S. Treasury Dep.; 317 pp.

———. *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exch., Oct., 1913; p 5; 4300 w; 35c.

———. *Annual Report of the Minister of Mines, British Columbia.* (Summarized by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Standd. (Pamphlet); pp 26; $1.

———. *Australian Mineral Output.*—Aus. Mg. Standd., Nov. 13, 1913; p 399; 1300 w; 35c.

———. *Big Increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

———. *California's Mineral Output in 1912.* (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 20c.

———. *Der Bergbau in China, Konsular-bezirk Shanghai, im Jahre 1912.* Mining in China, Shanghai consular district, in 1912.—Montan-Ztg., July 1, 1913; p 246; 2600 w; 15c.

———. *Development of the Rochester Mining District, Nevada.*—Mg. & Eng. World, June 28, 1913; p 1229; 800 w; 10c. M. & S. P., June 28, 1913; p 994; 1000 w; 20c.

———. *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

———. *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—Bergwerks-Ztg., Aug. 1, 1913; p 285; 1000 w. Aug. 12, 1913; p 1; 1940 w; Aug. 13; 1940 w; Aug. 14, 1440 w. Aug. 15; 900 w., $1.75.

———. *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre 1912.* [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734, 2000 w; 50c.

———. *Die französische Bergwerksindustrie im Jahre 1911.* [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

———. *Die Minenindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

———. *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15, 1913; p 346; 800 w; 35c.

———. *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

———. *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year 1912.*—Bulawayo; 136 pp.

———. *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—Revista Minera, Sept. 1, 1913; p 421; 1500 w; Sept. 9; p 433; 1500 w; 70c.

———. *Metal Production in the Eastern States in 1912.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1230; 650 w; 10c.

———. *Metal Production of the Leading States in 1911-12.* (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

———. *Mine Production of Colorado in 1912.* (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 553; table; 10c.

———. *Mineral Production of Belgium in 1912.*—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

———. *Mineral Production of Colorado in 1912.* Advance report, U. S. Geol. Surv.).—M. & S. P., Dec. 13, 1913; p 930; 270 w; 20c.

———. *Mineral Production of New Zealand in 1912.*—E. & M. J., Dec. 6, 1913; p 1126; 300 w; 25c.

———. *Mining Operations in Montana in 1913 Greatest in State's History.*—Mg. & Eng. World, Dec. 20, 1913; p 1139; 650 w; 10c.

———. *Mining in Sweden in 1912.* (U. S. Consular report.)—Mg. & Eng. World, Dec. 27, 1913; p 1152; 900 w; 10c.

———. *Mining in Tasmania in 1912.*—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1700 w., 35c.

———. *Montana's Metal Production in 1912.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

———. *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines re-

port).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June 30, 1912.*—U. S. Dept. of the Interior; 24 pp.

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

——— *Tasmanian Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

———. *The Nipissing Mine, Ontario.*—Mg. Mag., London, June, 1913; p 402; 1200 w; 35c.

Metallurgy, Chemistry, Cyaniding, Etc.

Allen, A. W.—*Solution Control in Cyanidation.*—M. & S. P., Sept. 30, 1913; p 448; 5200 w; 20c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice, 1910 to 1913.*—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Bernewitz, M. W. von.—*Lead Salts in Cyanidation.*—M. & S. P., Nov. 15, 1913; p 757; 4500 w; 20c.

Bernewitz, M. W. von.—*Smelting at Campo Seco, California.*—M. & S. P., Dec. 6, 1913; p 897; 1200 w*; 20c.

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpts from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Caldecott, W. A.—*Weight of Tube Mill Pebble Loads* (From Jnl. Chem. Met. & Mg. Soc., S. Afr., Feb., 1913).—Met. & Chem. Eng., July, 1913; p 417; 500 w; 35c.

Carpenter, Jay A.—*Operation of the West End Mill, Tonopah, Nevada.*—M. & S. P., Aug. 2, 1913; p 191; 2000 w; 20c.

Cohen, Louis.—*Some Interesting Experiments in Cyanidation.* (Abstract of paper read before Teknik Club, Denver).—Mg. & Eng. World, Nov. 22, 1913; p 933; 1400 w; 10c.

Denny, James J.—*Desulphurizing Silver Ores at Cobalt, Ont.*—M. & S. P., Sept. 27, 1913; p 484; 5000 w*; 20c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Flagg, A. L.—*Concentrating High-Grade Fines by Hand.*—E. & M. J., July 12, 1913; p 69; 900 w; 25c.

Frary, Francis C.—*The Electrodeposition of Gold and Silver.*—Trans. Am. Electrochem. Soc., Vol. 23; p 25; 18,000 w.

Grout, Frank F.—*The Behavior of Cold Acid Sulphate Solutions of Copper, Silver and Gold with Alkaline Extracts of Metallic Sulphides.*—Econ. Geol., Aug., 1913; p 407; 27 pp; 65c.

Guglialmelli, Luis.—*Acción de la Plata Coloidal sobre los Cloruros de Oro y de Platino.* [Action of coloidal silver on the chlorides of gold and platinum. A new method for obtaining coloidal gold].—Anales Soc. Cient. Argentina, Jan., 1913; p 41; 2800 w; $1.25.

Hall, E. J., and Drury, C. W.—*Assay of Gold and Silver by Iron-Nail Method.* (Abstracted from Bull. Am. Inst. Mg. Engrs., June, 1913).—E. & M. J., Dec. 13, 1913; p 1125; 2300 w; 25c.

Heym, Ingenieur.—*Die Behandlung des Edelerzschlammes;* [The treatment of precious-metal-ore slime].—Kali, Erz & Kohle, June 5, 1913; p 556; 1000 w; 35c.

Hore, Reginald E.—*Amalgamation and Cyanidation of Cobalt Silver Ores.*—Canadian Mg. Jnl., Sept. 15, 1913; p 568; 5000 w*; 35c.

Hore, Reginald E.—*Nipissing Picking and Jigging Plant, Cobalt, Ont.*—Can. Mg. Jnl., June 15, 1913; p 363; 2700 w*; 35c.

Horsfall, H. A.—*Treatment of Complex Silver Ores for Small Mines.*—Mg. Sci., July, 1913; p 36; 2200 w; 35c.

Hoover, H. C.—*Historical Note on Smelting Lead and Silver* (Footnote from book IX of Hoover's translation of Agricola).—E. & M. J., July 26, 1913; p 169; 1500 w; 25c.

Jones, A. H.—*Precipitate Melting at the New Belmont Mill, Nevada.*—E. & M. J., June 14, 1913; p 1197; 650 w*; 25c.

Laucks, I. F.—*Principles and Methods of Ore Testing.*—E. & M. J., July 12, 1913; p 51; 1200 w; 25c.

Megraw, Herbert A.—*Calculation of Extraction in Cyanidation.*—E. & M. J., Sept. 6, 1913; p 441; 3000 w; 25c.

Megraw, Herbert A.—*The Black Oak Cyanide Plant, California.*—E. & M. J., June 14, 1913; p 1179; 2500 w*; 25c.

Merton, A. M.—*Zinc-Dust Precipitation of Gold and Silver.*—Mg. & Eng. World, Sept. 6, 1913; p 429; 2500 w; 10c.

Miller, John F.—*The Electrolytic Refinery at Trail, B. C.* (Abstract of paper read before Western Branch Can. Mg. Inst.).—Mg. & Eng. World, July 12, 1913; p 57; 2500 w*; 10c.

Neumann, B.—*Das Metallhüttenwesen im Jahre,* 1912. [Metallurgy in 1912].—Glückauf, Oct. 25, 1913; p 1766; 4600 w; 50c.

Ortin, M. F.—*Die Verhüttung der gold- und silberhaltigen bleiischen Kupfererze auf den Blagodatny-Werken.* [The smelting of gold and silver-bearing plumbiferous copper ores at the Blagodatny Works].—Metall & Erz, Oct. 8, 1913; p 799; 3500 w*; Oct. 22, 1913; p 835; 1800 w*; $1.

Ortin, M. F., and Ropp, Baron A. v. d.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken.* [Discussion of Mr. Ortin's article "The smelting of gold and silver-bearing ores at the Blagodatny works"].—Metall & Erz., June 22, 1913; p 543; 5600 w*; July 8; p 586; 4400 w*; July 22, 1913; p 612; 13,000 w*; Nov. 8, 1913; p 874; 1200 w; $2.

Palmer, Chase, and Bastin, Edson S.—*The Role of Certain Metallic Minerals in Precipitating Gold and Silver.* (Paper read before Am. Inst. Mg. Engrs.; continuation).—Mg. Jnl., London, June 7, 1913; p 564; 2800 w; 35c.

Pulsifer, H. B.—*Lead Refining Plant at South Chicago* [National].—Mg. & Eng. World, July 26, 1913; p 153; 2600 w*; Aug. 2, 1913; p 205; 2100 w*; 20c.

Reichinstein, D.—*Beitrag zur Theorie der Chemischen Polarisation der Umkehrbaren Elektroden. Das Anodische Verhalten von Hg-Cu und Ag-Cu Legierungen;* [Contribution to the theory of chemical polarization of reversible electrodes. The anodic behavior of Hg-Cu and Ag-Cu alloys].—Zts. Elektrochemie, July 1, 1913; p 520; 5400 w*; 45c.

Reid, Fraser.—*Milling at Cobalt, Ontario.* (Paper read at reception tendered Int. Geol. Cong. at Cobalt; abstract).—M. & S. P., Aug. 9, 1913; p 216; 2100 w*; 20c.

Rhead, E. L., and Sexton, A. H.—*Assay-*

ing and Metallurgical Analysis (Second Edition).—New York and London; 452 pp*; $4.50; (book).

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver, Platinum, and the Platinum Group Metals in Ores, Bullions and Products.* 460 pp. $4.50 (book).

Symmes, Whitman.—*The Symmes Agitator.*—M. & S. P., July 19, 1913; p 92; 1800 w*; 20c.

Trenkner.—*The Quantitative Determination of the Precious Metals, Gold, Silver and Platinum.* (Translated from Metalurgie).—Met. & Chem. Engg., Oct., 1913; p 567; 2000 w; 35c. Abstract in Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

Willfley, C. R.—*Electrostatic Separation of Barstow Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

———. *Aluminum Dust Precipitation of Silver from Cyanide Solutions* [Contains excerpts from article in E. & M. J., by E. M. Hamilton].—Mg. Sci., July, 1913; p 43; 2100 w*; 35c.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

——— *Desulphurizing Cobalt (Ont.) Ores.* [Editorial].—M. & S. P., Sept. 27, 1913; p 483; 1000 w; 20c.

———. *Result of Investigations of the Methods of Assaying Broken Hill Ores.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 195; 46 pp; 75c.

———. *Ueber die Aufbereitung von Erzen durch Flotation.* [On the preparation of ores by flotation].—Montan-Ztg., Dec. 1, 1913; 800 w; 35c.

Miscellaneous

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Cremer, Oberbergrat.—*Bericht über eine Reise in der Chinesischen Provinz Szetschuan;* [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Fleck, Dr.—*Zur Geschichte des Bergbaues in Böhmen.* [Concerning the history of mining in Bohemia].—Glückauf, July 19, 1913; p 1136; 6200 w; 50c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hughes, Ben.—*Draining Kerr Lake, Ontario; A Novel Departure in Metal Mining.*—Mg. & Eng. World, Aug. 16, 1913; p 290; 75c w*; 10c.

King, Rufus.—*American Mining Interests in Central America.*—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

Le Grix, G., and Broniewski, W.—*Sur la Dureté des Alliages Aluminium-Argent.* [On the hardness of the aluminum-silver alloys].—Revue de Métallurgie, Aug., 1913; p 1055; 3000 w*; $1.15.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Rosa, E. B., Vinal, G. W., and McDaniel, A. S.—*The Silver Voltameter—Part III. Second Series of Quantative Experiments and the Preparation and Testing of Silver Nitrate.*—Reprint No. 201 from Bull. Bureau of Standards, Vol. 9; 60 pp.

Wade, W. Rogers.—*Minerals of the Tres Hermanas District, New Mexico.*—E. & M. J., Sept. 27, 1913; p 589; 1100 w; 25c.

Wartenberg, H. von.—*Ueber Metaldumpfdrucke;* [On the vapor tensions of metals, I.].—Zts Elektrochemie, June 15, 1913; p 432; 3500 w*; 45c.

Wartenberg, H. von.—*Ueber Silberoxyd* [On silver oxide].—Zts. Elektrochemie, June 15, 1913; p 489; 1200 w*; 45c.

Wepfer, G. W.—*Railroads and Transportation Problems in Bolivia.*—M. & S. P., July 19, 1913; p 100; 1800 w*; 20c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

——— *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de Minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

———. *Mining Enterprises in South China.* (U. S. Consular report; abstract).—Mg. & Eng. World, July 5, 1913; p 11; 200 w; 10c.

——— *Western Sections A. I. M. E. Joint Sessions at Wallace, Idaho.*—Mg. & Eng. World, Nov. 29, 1913; p 967; 5000 w; 10c.

PLATINUM

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912. (U. S. Consular Report). — Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Day, David T.—*The Production of Platinum and Allied Metals in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 7 pp. Mg. & Eng. World, Oct. 25, 1913; p 742; 1000 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans.

Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Greenwood, H. D.—*Assay Method for Palladium and Platinum.*—E. & M. J., Dec. 20, 1913; p 1175; 1000 w; 25c.

Gutbier, A.—*Zur Kenntnis des Osmiums.* [On the knowledge concerning osmium].—Chemiker-Ztg., July 17, 1913; p 857; 3500 w; 35c.

Guglialmelli, Luis.—*Acción de la Plata Coloidal sobre los Cloruros de Oro y de Platino.* [Action of coloidal silver on the chlorides of gold and platinum. A new method for obtaining coloidal gold].—Anales Soc. Client. Argentina, Jan., 1913; p 41; 2800 w; $1.75.

Hautpick, E. de.—*Occurrence of Platinum in the Urals.*—Mg. Jnl., London, Sept. 20, 1913; p 891; 1400 w; 35c.

Hirshberg, L. K.—*Mining Platinum.*—Mex. Mg. Jnl., June, 1913; p 278; 800 w; 25c.

Hutchins, John Power.—*Dredging by Hand in Siberia.*—M. & S. P., Nov. 22, 1913; p 813; 1250 w*; 20c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Neumann, B.—*Das Metallhüttenwesen im Jahre,* 1912. [Metallurgy in 1912].—Glückauf, Oct. 25, 1913; p 1766; 4600 w; 50c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver, Platinum, and the Platinum Group Metals in Ores, Bullion and Products.* 460 pp. $4.50 (book).

Smoot, A. M.—*Suggestions on the Platinum-Palladium Assay.*—E. & M. J., Dec. 20, 1913; p 1175; 400 w; 25c.

Stovall, Dennis H.—*Method of Saving Placer Platinum on Burlap Tables.*—Mg. & Eng. World, June 14, 1913; p 1132; 650 w*; 10c.

Trenkner.—*The Quantitative Determination of the Precious Metals, Gold, Silver and Platinum.* (Translated from Metallurgie).—Met. & Chem. Engg., Oct., 1913; p 567; 2000 w; 35c. Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *Die Minenindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

——— *Russian Platinum.*—M. & S. P., Oct. 11, 1913; p 581; 1100 w*; 20c.

OSMIUM AND PALLADIUM

See under Platinum.

CHAPTER II.

COPPER.

Mines and Mining

Billingsley, Paul.—*The Southern Cross Mine, Mont.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2289; 11 pp*; 35c. Mg. & Eng. World, Nov. 1, 1913; p 721; 3200 w*; 10c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 281; 2200 w; 25c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Brinsmade, R. B.—*The Copper Mines of the Sierra Magistral, Mexico.*—Mex. Mg. Jnl., Aug., 1913; p 294; 6500 w*; 35c.

Brooks, Alfred H.—*Mineral Production of Alaska in* 1912. (From advance chapter Mineral Res. U. S.).—Mg. & Eng. World, Aug. 23, 1913; p 335; 4500 w; 10c.

Brown, W. R.—*Blast-Hole Drilling in Open-Pit Copper Mining.* (Abstract from Colo. Sch. of Mines Mag.).—Mg. & Eng. World, Oct. 25, 1913; p 735; 2100 w; 10c.

Brown, W. R.—*Blast-Hole Drilling at the Nevada Con. Property in Nevada.* (Excerpts from an article in Keystone Drill Magazine).—E. & M. J., Nov. 22, 1913; p 982; 2750 w; 25c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Butler, B. S.—*Copper in* 1912. (General Report).—Advance chapter from Mining Resources of U. S.; 64 pp.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Dunlop, J. P.—*Record Metal Production in Missouri.* (Advance report U. S. Geological Survey).—Mg. & Eng. World, June 14, 1913; p 1182; 550 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp.

Gilbert, Chester G., and Pogue, Joseph A.—*The Mount Lyell Copper District of Tasmania.*—Reprint from Proc. U. S. Natl. Museum, Govt. Ptg. Office, Washington, D. C., 26 pp*.

Gillie, John.—*Use of Electricity in Mining in the Butte District.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2305; 4 pp; 35c. Mg. & Eng. World, Nov. 22, 1913; p 926; 1300 w; 10c.

Goodall, C. W.—*The Character of the Butte Copper Ores.* (Paper read before Butte meeting Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 6, 1913; p 1025; 1300 w*; 10c.

Gwyn-Williams, R. H.—*Mining in Katanga, Congo Belge.*—Mg. Jnl., London, Aug. 23, 1913; 3000 w; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hansen, C. M.—*Drilling in Mid-Air.* [At the Bullwhacker mine, Butte].—Comp. Air Mag., Aug., 1913; p 6919; 500 w*; 20c.

Hauptick, E. de.—*Year's Progress of the Russian Copper Industry.* (Abstract from London Mg. Jnl.).—Mg. & Eng. World, Dec. 27, 1913; p 1159; 1600 w; 10c.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona during* 1913. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production over* 1911 *by Nearly* $18,000,000. (Abstract from U. S. Geol. Surv. report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes, V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey; advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C. — *Precious and Semi-precious Metals in Montana in 1912.*—Mine Production.—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912.—Mine Produc- Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912—*Mine Production.*—Adv. chap. Min. Res. of tion.—Adv. chap. Min. Res. of U. S., U. S. U. S., U. S. Geol. Survey; 74 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henglein, M.—*Der Bergbau in Grossherzogtum Baden;* [Mining in grand duchy of Baden (Germany)].—Glückauf, June 14, 1913; p 932; 6000 w*; June 21, 1913; p 974; 4800 w*; $1.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Erz & Kohle, Aug. 15, 1913; p 808; 2500 w*; 35c.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian Mg. Jnl., Oct. 15, 1913; p 643; 3000 w*; Nov. 1, 1913; p 675; 2700 w*; 70c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Jimines, Carlos.—*Estadistica Minera del Peru, 1911.* [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Lindstädt, Bergassessor.—*Die Blei und Zinkerzlagerstätten der Provinz Guipúzcoa in Spanien mit besonderer Berücksichtigung der Grube Catavera II bei Oñate.* [The lead and zinc-ore deposits of the province of Guipúzcoa in Spain with special reference to the Catavera II mine at Oñate].—Metall & Erz, Aug. 8, 1913; p 647; 9000 w*; 50c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the Province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Precious and Semiprecious Metals in the Eastern States in* 1912; *Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McDonald, P. B.—*Stoping Methods in Michigan Mines.*—M. & S. P., July 5, 1913; p 9; 3800 w*; 20c.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Nordberg, Bruno.—*The Compressed Air System of the Anaconda Copper Mining Co.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2225; 75 pp*; 35c. Mg. & Eng. World, Nov. 15, 1913; p 881; 3200 w; 10c.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Ordonez, Ezequiel.—*The Magistral District, Jalisco, Mexico.*—E. & M. J., Sept. 13, 1913; p 491; 1600 w; 25c.

Packard, George A.—*Evolution of an Electric Signal System.*—E. & M. J., Oct. 18, 1913; p 737; 1300 w*; 25c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Parker, E. W.—*Production of Arizona in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 6, 1913; p 1026; 300 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. of U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 2, 9, 16, 23, 30; Sept. 13, 20, 27; Oct. 11, 1913; 29,100 w*; 90c.

Rice, Claude T.—*Shaft Timbering in Butte Copper Mines.*—Mg. & Eng. World, Oct. 18; Nov. 1, 8, 22; Dec. 6, 20, 27, 1913; 27,800 w*; 70c.

Rice, Claude T.—*The Newer Developments at Butte Mines.*—Mg. & Eng. World, July 19, 1913; p 99; 5700 w*; 10c.

Ricketts, L. D.—*The Year at Cananea.* (Abstract of annual report Cananea Con. Co.).—M. & S. P., June 14, 1913; p 901; 2300 w*; 20c.

Severy, C. L.—*Diamond Drilling at the Poderosa Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Storms, W. H.—*The Trinity Balaklala-Vuloan Mines, Shasta County, California.*—M. & S. P., Sept. 13, 1913; p 408; 5000 w*; 20c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14 and 21, 1913; p 898 and 947; 6700 w*; 40c.

Wierum, H. F.—*Ore Bedding by the Tennessee Copper Co.*—E. & M. J., Sept. 6, 1913; p 435; 2800 w; 25c.

Wilcox, Ralph.—*Substitution of Air for Water in Diamond Drilling.* (Abstract of paper read at Butte meeting Am. Inst. Mg. Engrs.).—E. & M. J., Nov. 22, 1913; p 973; 650 w; 25c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Woodburn, J. Allan.—*Mining Copper Ores at Messina.*—Jnl. Chem., Met. & Mg. Soc. S. Af., Aug., 1913; p 53; 12 pp*; 65c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*Precious and Semiprecious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

Yeatman, Pope.—*The Braden Copper Co.* (Abstract of annual report).—M. & S. P., July 5, 1913; p 19; 1300 w; 20c.

———. *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exchg., Oct., 1913; p 5; 4300 w; 35c.

———. *Annual Report of the Minister of Mines, British Columbia.* (Summarised by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

———. *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

———. *Big increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

———. *Blast-Hole Drilling in Open-Pit Copper Mining at Copper Flat, Nev.*—M. & S. P., Oct. 25, 1913; p 643; 2600 w*; 20c.

———. *California Mineral Output in* 1912. (Report of Cal. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *California's Varied Mineral Pro-*

CHAPTER II.

COPPER.

Mines and Mining

Billingsley, Paul.—*The Southern Cross Mine, Mont.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2289; 11 pp*; 35c. Mg. & Eng. World, Nov. 1, 1913; p 721; 3200 w*; 10c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 281; 2200 w; 25c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Brinsmade, R. B.—*The Copper Mines of the Sierra Magistral, Mexico.*—Mex. Mg. Jnl., Aug., 1913; p 294; 6500 w*; 35c.

Brooks, Alfred H.—*Mineral Production of Alaska in* 1912. (From advance chapter Mineral Res. U. S.).—Mg. & Eng. World, Aug. 23, 1913; p 335; 4500 w; 10c.

Brown, W. R.—*Blast-Hole Drilling in Open-Pit Copper Mining.* (Abstract from Colo. Sch. of Mines Mag.).—Mg. & Eng. World, Oct. 25, 1913; p 735; 2100 w; 10c.

Brown, W. R.—*Blast-Hole Drilling at the Nevada Con. Property in Nevada.* (Excerpts from an article in Keystone Drill Magazine).—E. & M. J., Nov. 22, 1913; p 982; 2750 w; 25c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Butler, B. S.—*Copper in* 1912. (General Report).—Advance chapter from Mining Resources of U. S.; 64 pp.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special References to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Dunlop, J. P.—*Record Metal Production in Missouri.* (Advance report U. S. Geological Survey).—Mg. & Eng. World, June 14, 1913; p 1132; 550 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp.

Gilbert, Chester G., and Pogue, Joseph A.—*The Mount Lyell Copper District of Tasmania.*—Reprint from Proc. U. S. Natl. Museum, Govt. Ptg. Office, Washington, D. C., 26 pp*.

Gillie, John.—*Use of Electricity in Mining in the Butte District.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2305; 4 pp; 35c. Mg. & Eng. World, Nov. 22, 1913; p 926; 1300 w; 10c.

Goodall, C. W.—*The Character of the Butte Copper Ores.* (Paper read before Butte meeting Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 6, 1913; p 1025; 1300 w*; 10c.

Gwyn-Williams, R. H.—*Mining in Katanga, Congo Belge.*—Mg. Jnl., London, Aug. 23, 1913; 3000 w; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hansen, C. M.—*Drilling in Mid-Air.* [At the Bullwhacker mine, Butte].—Comp. Air Mag., Aug., 1913; p 6919; 500 w*; 20c.

Hauptick, E. de.—*Year's Progress of the Russian Copper Industry.* (Abstract from London Mg. Jnl.).—Mg. & Eng. World, Dec. 27, 1913; p 1159; 1600 w; 10c.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona during* 1913. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production over* 1911 *by Nearly* $18,000,000. (Abstract from U. S. Geol. Surv. report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes, V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey; advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C. — *Precious and Semi-precious Metals in Montana in 1912.*—Mine Production.—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912.—Mine Produc-Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912—*Mine Production.*—Adv. chap. Min. Res. of tion.—Adv. chap. Min. Res. of U. S., U. S. U. S., U. S. Geol. Survey; 74 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henglein, M.—*Der Bergbau in Grossherzogtum Baden;* [Mining in grand duchy of Baden (Germany)].—Glückauf, June 14, 1913; p 932; 6000 w*; June 21, 1913; p 974; 4800 w*; $1.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Erz & Kohle, Aug. 15, 1913; p 808; 2500 w*; 35c.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian Mg. Jnl., Oct. 15, 1913; p 643; 3000 w*; Nov. 1, 1913; p 675; 2700 w*; 70c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Jimines, Carlos.—*Estadistica Minera del Peru, 1911.* [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Lindstädt, Bergassessor.—*Die Blei und Zinkerzlagerstätten der Provinz Guipúzcoa in Spanien mit besonderer Berücksichtigung der Grube Catavera II bei Oñate.* [The lead and zinc-ore deposits of the province of Guipúzcoa in Spain with special reference to the Catavera II mine at Oñate].—Metall & Erz, Aug. 8, 1913; p 647; 9000 w*; 50c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the Province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Precious and Semiprecious Metals in the Eastern States in* 1912; *Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McDonald, P. B.—*Stoping Methods in Michigan Mines.*—M. & S. P., July 5, 1913; p 9; 3800 w*; 20c.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Nordberg, Bruno.—*The Compressed Air System of the Anaconda Copper Mining Co.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2225; 75 pp*; 35c. Mg. & Eng. World, Nov. 15, 1913; p 881; 3200 w; 10c.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Ordonez, Ezequiel.—*The Magistral District, Jalisco, Mexico.*—E. & M. J., Sept. 13, 1913; p 491; 1600 w; 25c.

Packard, George A.—*Evolution of an Electric Signal System.*—E. & M. J., Oct. 18, 1913; p 737; 1300 w*; 25c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Parker, E. W.—*Production of Arizona in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 6, 1913; p 1026; 300 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. of U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 2, 9, 16, 23, 30; Sept. 13, 20, 27; Oct. 11, 1913; 29,100 w*; 90c.

Rice, Claude T.—*Shaft Timbering in Butte Copper Mines.*—Mg. & Eng. World, Oct. 18; Nov. 1, 8, 22; Dec. 6, 20, 27, 1913; 27,800 w*; 70c.

Rice, Claude T.—*The Newer Developments at Butte Mines.*—Mg. & Eng. World, July 19, 1913; p 99; 5700 w*; 10c.

Ricketts, L. D.—*The Year at Cananea.* (Abstract of annual report Cananea Con. Co.).—M. & S. P., June 14, 1913; p 901; 2300 w*; 20c.

Severy, C. L.—*Diamond Drilling at the Poderosa Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Storms, W. H.—*The Trinity Balaklala-Vulcan Mines, Shasta County, California.*—M. & S. P., Sept. 13, 1913; p 408; 5000 w*; 20c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14 and 21, 1913; p 898 and 947; 6700 w*; 40c.

Wierum, H. F.—*Ore Bedding by the Tennessee Copper Co.*—E. & M. J., Sept. 6, 1913; p 435; 2800 w; 25c.

Wilcox, Ralph.—*Substitution of Air for Water in Diamond Drilling.* (Abstract of paper read at Butte meeting Am. Inst. Mg. Engrs.).—E. & M. J., Nov. 22, 1913; p 973; 650 w; 25c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Woodburn, J. Allan.—*Mining Copper Ores at Messina.*—Jnl. Chem., Met. & Mg. Soc. S. Af., Aug., 1913; p 53; 12 pp*; 65c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*Precious and Semiprecious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

Yeatman, Pope.—*The Braden Copper Co.* (Abstract of annual report).—M. & S. P., July 5, 1913; p 19; 1800 w; 20c.

——— *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exchg., Oct., 1913; p 5; 4300 w; 35c.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarised by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Big increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

——— *Blast-Hole Drilling in Open-Pit Copper Mining at Copper Flat, Nev.*—M. & S. P., Oct. 25, 1913; p 643; 2600 w*; 20c.

——— *California Mineral Output in* 1912. (Report of Cal. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *California's Varied Mineral Pro-*

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Kolorado)*; [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913; p 885; 1900 w*; 50c.

Severy, C. L.—*Diamond Drilling at the Poderosa Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Shannon, Earl V.—*Secondary Enrichment in the Caledonia Mine, Coeur d'Alene District, Idaho.*—Economic Geol., Sept., 1913; p 565; 6 pp; 65c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 29, 1913; p 963; 2500 w*; 10c.

Tait, P. G.—*The Magnet Silver-Lead Mine, Tasmania* (Abstract from Mg. & Eng. Rev.).—M. & S. P., July 19, 1913; p 102; 1200 w; 20c.

Thom, W. T.—*Record Mineral Production of the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Tyrrell, J. B.—*Silver Veins in South Lorrain, Ontario.*—Can. Mg. Jnl., June 1, 1913; p 329; 1000 w; 35c.

Umpleby, Joseph B.—*Mines of the Texas District, Lemhi County, Idaho.* (Abstract from Bull. 528, U. S. Geol. Surv.).—Mg. Sci., Nov., 1913; p 272; 2000 w*; 35c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14, 1913; p 898; 3500 w*; June 21, 1913; p 947; 3200 w*; 40c.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dept. of Mines, Geol. Survey; 52 pp*.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Charles G.—*Precious and Semi-precious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

———. *Annual Report of the Director of the Mint for the Fiscal Year Ended June 30, 1912, and Also Report on the Production of the Precious Metals in the Calendar Year* 1911.—Document No. 2671, U. S. Treasury Dep.; 317 pp.

——— *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exch., Oct., 1913; p 5; 4300 w; 35c.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarized by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

——— *Big Increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *Der Bergbau in China, Konsulardistrik Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

———. *Development of the Rochester Mining District, Nevada.*—Mg. & Eng. World, June 28, 1913; p 1239; 800 w; 10c. M. & S. P., June 28, 1913; p 994; 1000 w; 20c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—Bergwerks-Ztg., Aug. 1, 1913; p 285; 1000 w; Aug. 12, 1913; p 1; 1800 w; Aug. 13; 1000 w; Aug. 14; 1600 w; Aug. 15; 900 w; $1.75.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

——— *Die Mineindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

——— *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15, 1913; p 346; 800 w; 35c.

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—Revista Minera, Sept. 1, 1913; p 421; 1500 w; Sept. 8; p 433; 1500 w; 70c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c.

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

——— *Mine Production of Colorado in* 1912. (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report. U. S. Geol. Surv.).—M. & S. P., Dec. 13, 1913; p 930; 200 w; 20c.

——— *Mineral Production of New Zealand in* 1912.—E. & M. J., Dec. 6, 1913; p 1116; 300 w; 25c.

———. *Mining Operations in Montana in* 1913 *Greatest in State's History.*—Mg. & Eng. World, Dec. 20, 1913; p 1109; 650 w; 10c.

——— *Mining in Sweden in* 1912. (U. S. Consular report).—Mg. & Eng. World, Dec. 27, 1913; p 1152; 300 w; 10c.

——— *Mining in Tasmania in* 1912.—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1700 w; 35c.

——— *Montana's Metal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

———. *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines re-

port).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June 30, 1912.*—U. S. Dept. of the Interior; 24 pp.

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

———. *Tasmanian Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

———. *The Nipissing Mine, Ontario.*—Mg. Mag., London, June, 1913; p 402; 1200 w; 35c.

Metallurgy, Chemistry, Cyaniding, Etc.

Allen, A. W.—*Solution Control in Cyanidation.*—M. & S. P., Sept. 30, 1913; p 448; 5200 w; 20c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice, 1910 to 1913.*—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Bernewitz, M. W. von.—*Lead Salts in Cyanidation.*—M. & S. P., Nov. 15, 1913; p 757; 4500 w; 20c.

Bernewitz, M. W. von.—*Smelting at Campo Seco, California.*—M. & S. P., Dec. 6, 1913; p 897; 1200 w*; 20c.

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpts from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Caldecott, W. A.—*Weight of Tube Mill Pebble Loads* (From Jnl. Chem. Met. & Mg. Soc., S. Afr., Feb., 1913).—Met. & Chem. Eng., July, 1913; p 417; 500 w; 35c.

Carpenter, Jay A.—*Operation of the West End Mill, Tonopah, Nevada.*—M. & S. P., Aug. 2, 1913; p 191; 2000 w; 20c.

Cohen, Louis.—*Some Interesting Experiments in Cyanidation.* (Abstract of paper read before Teknik Club, Denver).—Mg. & Eng. World, Nov. 22, 1913; p 933; 1400 w; 10c.

Denny, James J.—*Desulphurizing Silver Ores at Cobalt, Ont.*—M. & S. P., Sept. 27, 1913; p 484; 5000 w*; 20c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Flagg, A. L.—*Concentrating High-Grade Fines by Hand.*—E. & M. J., July 12, 1913; p 69; 900 w; 25c.

Frary, Francis C.—*The Electrodeposition of Gold and Silver.*—Trans. Am. Electrochem. Soc., Vol. 23; p 25; 18,000 w.

Grout, Frank F.—*The Behavior of Cold Acid Sulphate Solutions of Copper, Silver and Gold with Alkaline Extracts of Metallic Sulphides.*—Econ. Geol., Aug., 1913; p 407; 27 pp; 65c.

Guglialmelli, Luis.—*Acción de la Plata Coloidal sobre los Cloruros de Oro y de Platino.* [Action of coloidal silver on the chlorides of gold and platinum. A new method for obtaining coloidal gold].—Anales Soc. Cient. Argentina, Jan., 1913; p 41; 2800 w; $1.25.

Hall, E. J., and Drury, C. W.—*Assay of Gold and Silver by Iron-Nail Method.* (Abstracted from Bull. Am. Inst. Mg. Engrs., June, 1913).—E. & M. J., Dec. 13, 1913; p 1125; 2800 w; 25c.

Heym, Ingenieur.—*Die Behandlung des Edelerzschlammes;* [The treatment of precious-metal-ore slime].—Kali, Erz & Kohle, June 5, 1913; p 556; 1000 w; 35c.

Hore, Reginald E.—*Amalgamation and Cyanidation of Cobalt Silver Ores.*—Canadian Mg. Jnl., Sept. 15, 1913; p 568; 5000 w*; 35c.

Hore, Reginald E.—*Nipissing Picking and Jigging Plant, Cobalt, Ont.*—Can. Mg. Jnl., June 15, 1913; p 363; 2700 w*; 35c.

Horsfall, H. A.—*Treatment of Complex Silver Ores for Small Mines.*—Mg. Sci., July, 1913; p 36; 2200 w; 35c.

Hoover, H. C.—*Historical Note on Smelting Lead and Silver* (Footnote from book IX of Hoover's translation of Agricola).—E. & M. J., July 26, 1913; p 169; 1500 w; 25c.

Jones, A. H.—*Precipitate Melting at the New Belmont Mill, Nevada.*—E. & M. J., June 14, 1913; p 1197; 650 w*; 25c.

Laucks, I. F.—*Principles and Methods of Ore Testing.*—E. & M. J., July 12, 1913; p 51; 1200 w; 25c.

Megraw, Herbert A.—*Calculation of Extraction in Cyanidation.*—E. & M. J., Sept. 6, 1913; p 441; 3000 w; 25c.

Megraw, Herbert A.—*The Black Oak Cyanide Plant, California.*—E. & M. J., June 14, 1913; p 1179; 2500 w*; 25c.

Merton, A. M.—*Zinc-Dust Precipitation of Gold and Silver.*—Mg. & Eng. World, Sept. 6, 1913; p 429; 2500 w; 10c.

Miller, John F.—*The Electrolytic Refinery at Trail, B. C.* (Abstract of paper read before Western Branch Can. Mg. Inst.).—Mg. & Eng. World, July 12, 1913; p 57; 2500 w*; 10c.

Neumann, B.—*Das Metallhüttenwesen im Jahre,* 1912. [Metallurgy in 1912].—Glückauf, Oct. 25, 1913; p 1766; 4600 w; 50c.

Ortin, M. F.—*Die Verhüttung der gold- und silberhaltigen bleiischen Kupfererze auf den Blagodatny-Werken.* [The smelting of gold and silver-bearing plumbiferous copper ores at the Blagodatny Works].—Metall & Erz, Oct. 8, 1913; p 799; 3500 w*; Oct. 22, 1913; p 835; 1800 w*; $1.

Ortin, M. F., and Ropp, Baron A. v. d.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken.* [Discussion of Mr. Ortin's article "The smelting of gold and silver-bearing ores at the Blagodatny works"].—Metall & Erz., June 22, 1913; p 543; 5600 w*; July 8; p 586; 4400 w*; July 22, 1913; p 612; 13,000 w*; Nov. 8, 1913; p 874; 1200 w; $2.

Palmer, Chase, and Bastin, Edson S.—*The Role of Certain Metallic Minerals in Precipitating Gold and Silver.* (Paper read before Am. Inst. Mg. Engrs.; continuation).—Mg. Jnl., London, June 7, 1913; p 564; 2800 w; 35c.

Pulsifer, H. B.—*Lead Refining Plant at South Chicago* [National].—Mg. & Eng. World, July 26, 1913; p 153; 2600 w*; Aug. 2, 1913; p 205; 2100 w*; 20c.

Reichinstein, D.—*Beitrag zur Theorie der Chemischen Polarisation der Umkehrbaren Elektroden. Das Anodische Verhalten von Hg-Cu und Ag-Cu Legierungen;* [Contribution to the theory of chemical polarization of reversible electrodes. The anodic behavior of Hg-Cu and Ag-Cu alloys].—Zts. Elektrochemie, July 1, 1913; p 520; 5400 w*; 45c.

Reid, Fraser.—*Milling at Cobalt, Ontario.* (Paper read at reception tendered Int. Geol. Cong. at Cobalt; abstract).—M. & S. P., Aug. 9, 1913; p 216; 2100 w*; 20c.

Rhead, E. L., and Sexton, A. H.—*Assay-*

ing and Metallurgical Analysis (Second Edition).—New York and London; 452 pp*; $4.50; (book).

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver, Platinum, and the Platinum Group Metals in Ores, Bullions and Products.* 460 pp. $4.50 (book).

Symmes, Whitman.—*The Symmes Agitator.*—M. & S. P., July 19, 1913; p 92; 1800 w*; 20c.

Trenkner.—*The Quantitative Determination of the Precious Metals, Gold, Silver and Platinum.* (Translated from Metalurgie).—Met. & Chem. Engg., Oct., 1913; p 567; 2000 w; 35c. Abstract in Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

Willfley, C. R.—*Electrostatic Separation of Barstow Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

———. *Aluminum Dust Precipitation of Silver from Cyanide Solutions* [Contains excerpts from article in E. & M. J., by E. M. Hamilton].—Mg. Sci., July, 1913; p 43; 2100 w*; 35c.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

——— *Desulphurizing Cobalt (Ont.) Ores.* [Editorial].—M. & S. P., Sept. 27, 1913; p 483; 1000 w; 20c.

———. *Result of Investigations of the Methods of Assaying Broken Hill Ores.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 195; 46 pp; 75c.

———. *Ueber die Aufbereitung von Erzen durch Flotation.* [On the preparation of ores by flotation].—Montan-Ztg., Dec. 1, 1913; 800 w; 35c.

Miscellaneous

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Cremer, Oberbergrat.—*Bericht über eine Reise in der Chinesischen Provins Szetschuan;* [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Fleck, Dr.—*Zur Geschichte des Bergbaues in Böhmen.* [Concerning the history of mining in Bohemia].—Glückauf, July 19, 1913; p 1136; 6200 w; 50c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hughes, Ben.—*Draining Kerr Lake, Ontario; A Novel Departure in Metal Mining.*—Mg. & Eng. World, Aug. 16, 1913; p 290; 750 w*; 10c.

King, Rufus.—*American Mining Interests in Central America.*—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

Le Grix, G., and Bronlewski, W.—*Sur la Dureté des Alliages Aluminium-Argent.* [On the hardness of the aluminum-silver alloys].—Revue de Métallurgie, Aug., 1913; p 1055; 3000 w*; $1.15.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Rosa, E. B., Vinal, G. W., and McDaniel, A. S.—*The Silver Voltameter—Part III. Second Series of Quantative Experiments and the Preparation and Testing of Silver Nitrate.*—Reprint No. 201 from Bull. Bureau of Standards, Vol. 9; 60 pp.

Wade, W. Rogers.—*Minerals of the Tres Hermanas District, New Mexico.*—E. & M. J., Sept. 27, 1913; p 589; 1100 w; 25c.

Wartenberg, H. von.—*Ueber Metaldumpfdrucke;* [On the vapor tensions of metals, I.].—Zts Elektrochemie, June 15, 1913; p 482; 3500 w*; 45c.

Wartenberg, H. von.—*Ueber Silberoxyd* [On silver oxide].—Zts. Elektrochemie, June 15, 1913; p 489; 1200 w*; 45c.

Wepfer, G. W.—*Railroads and Transportation Problems in Bolivia.*—M. & S. P., July 19, 1913; p 100; 1800 w*; 20c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

——— *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de Minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

———. *Mining Enterprises in South China.* (U. S. Consular report; abstract).—Mg. & Eng. World, July 5, 1913; p 11; 200 w; 10c.

——— *Western Sections A. I. M. E. Joint Sessions at Wallace, Idaho.*—Mg. & Eng. World, Nov. 29, 1913; p 967; 5000 w; 10c.

PLATINUM

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912. (U. S. Consular Report). — Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Day, David T.—*The Production of Platinum and Allied Metals in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 7 pp. Mg. & Eng. World, Oct. 25, 1913; p 742; 1000 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans.

Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Greenwood, H. D.—*Assay Method for Palladium and Platinum.*—E. & M. J., Dec. 20, 1913; p 1175; 1000 w; 25c.

Gutbier, A.—*Zur Kenntnis des Osmiums.* [On the knowledge concerning osmium].—Chemiker-Ztg., July 17, 1913; p 857; 3500 w; 35c.

Guglialmelli, Luis.—*Acción de la Plata Coloidal sobre los Cloruros de Oro y de Platino.* [Action of coloidal silver on the chlorides of gold and platinum. A new method for obtaining coloidal gold].—Anales Soc. Cient. Argentina, Jan., 1913; p 41; 2800 w; $1.75.

Hautpick, E. de.—*Occurrence of Platinum in the Urals.*—Mg. Jnl., London, Sept. 20, 1913; p 891; 1400 w; 35c.

Hirshberg, L. K.—*Mining Platinum.*—Mex. Mg. Jnl., June, 1913; p 278; 800 w; 25c.

Hutchins, John Power.—*Dredging by Hand in Siberia.*—M. & S. P., Nov. 22, 1913; p 813; 1250 w*; 20c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Neumann, B.—*Das Metallhüttenwesen im Jahre,* 1912. [Metallurgy in 1912].—Glückauf, Oct. 25, 1913; p 1766; 4600 w; 50c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver, Platinum, and the Platinum Group Metals in Ores, Bullion and Products.* 460 pp. $4.50 (book).

Smoot, A. M.—*Suggestions on the Platinum-Palladium Assay.*—E. & M. J., Dec. 20, 1913; p 1175; 400 w; 25c.

Stovall, Dennis H.—*Method of Saving Placer Platinum on Burlap Tables.*—Mg. & Eng. World, June 14, 1913; p 1132; 650 w*; 10c.

Trenkner.—*The Quantitative Determination of the Precious Metals, Gold, Silver and Platinum.* (Translated from Metallurgie).—Met. & Chem. Engg., Oct., 1913; p 567; 2000 w; 35c. Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

———. *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *Die Minenindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

———. *Russian Platinum.*—M. & S. P., Oct. 11, 1913; p 581; 1100 w*; 20c.

OSMIUM AND PALLADIUM

See under Platinum.

CHAPTER II.

COPPER.

Mines and Mining

Billingsley, Paul.—*The Southern Cross Mine, Mont.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2289; 11 pp*; 35c. Mg. & Eng. World, Nov. 1, 1913; p 721; 3200 w*; 10c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 281; 2200 w; 25c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Brinsmade, R. B.—*The Copper Mines of the Sierra Magistral, Mexico.*—Mex. Mg. Jnl., Aug., 1913; p 394; 6500 w*; 35c.

Brooks, Alfred H.—*Mineral Production of Alaska in* 1912. (From advance chapter Mineral Res. U. S.).—Mg. & Eng. World, Aug. 23, 1913; p 335; 4500 w; 10c.

Brown, W. R.—*Blast-Hole Drilling in Open-Pit Copper Mining.* (Abstract from Colo. Sch. of Mines Mag.).—Mg. & Eng. World, Oct. 25, 1913; p 735; 2100 w; 10c.

Brown, W. R.—*Blast-Hole Drilling at the Nevada Con. Property in Nevada.* (Excerpts from an article in Keystone Drill Magazine).—E. & M. J., Nov. 22, 1913; p 982; 2750 w; 25c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Butler, B. S.—*Copper in* 1912. (General Report).—Advance chapter from Mining Resources of U. S.; 64 pp.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Dunlop, J. P.—*Record Metal Production in Missouri.* (Advance report U. S. Geological Survey).—Mg. & Eng. World, June 14, 1913; p 1132; 550 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp.

Gilbert, Chester G., and Pogue, Joseph A.—*The Mount Lyell Copper District of Tasmania.*—Reprint from Proc. U. S. Natl. Museum, Govt. Ptg. Office, Washington, D. C., 26 pp*.

Gillie, John.—*Use of Electricity in Mining in the Butte District.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2305; 4 pp; 35c. Mg. & Eng. World, Nov. 22, 1913; p 926; 1300 w; 10c.

Goodall, C. W.—*The Character of the Butte Copper Ores.* (Paper read before Butte meeting Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 6, 1913; p 1025; 1300 w*; 10c.

Gwyn-Williams, R. H.—*Mining in Katanga, Congo Belge.*—Mg. Jnl., London, Aug. 23, 1913; 3000 w; 25c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hansen, C. M.—*Drilling in Mid-Air.* [At the Bullwhacker mine, Butte].—Comp. Air Mag., Aug., 1913; p 6919; 500 w*; 20c.

Hauptick, E. de.—*Year's Progress of the Russian Copper Industry.* (Abstract from London Mg. Jnl.).—Mg. & Eng. World, Dec. 27, 1913; p 1159; 1600 w; 10c.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona during* 1912. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production over* 1911 *by Nearly* $18,000,000. (Abstract from U. S. Geol. Surv. report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes, V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey; advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C. — *Precious and Semi-precious Metals in Montana in 1912.*—Mine Production.—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912.—Mine Produc- Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912—*Mine Production.*—Adv. chap. Min. Res. of tion.—Adv. chap. Min. Res. of U. S., U. S. U. S., U. S. Geol. Survey; 74 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henglein, M.—*Der Bergbau in Grossherzogtum Baden;* [Mining in grand duchy of Baden (Germany)].—Glückauf, June 14, 1913; p 932; 6000 w*; June 21, 1913; p 974; 4800 w*; $1.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Erz & Kohle, Aug. 15, 1913; p 808; 2500 w*; 35c.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian Mg. Jnl., Oct. 15, 1913; p 643; 3000 w*; Nov. 1, 1913; p 675; 2700 w*; 70c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Jimines, Carlos.—*Estadistica Minera del Peru, 1911.* [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Lindstädt, Bergassessor.—*Die Blei und Zinkerzlagerstätten der Provinz Guipúzcoa in Spanien mit besonderer Berücksichtigung der Grube Catavera II bei Oñate.* [The lead and zinc-ore deposits of the province of Guipúzcoa in Spain with special reference to the Catavera II mine at Oñate].—Metall & Erz, Aug. 8, 1913; p 647; 9000 w*; 50c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the Province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Precious and Semiprecious Metals in the Eastern States in 1912; Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McDonald, P. B.—*Stoping Methods in Michigan Mines.*—M. & S. P., July 5, 1913; p 9; 3800 w*; 20c.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Nordberg, Bruno.—*The Compressed Air System of the Anaconda Copper Mining Co.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2225; 75 pp*; 35c. Mg. & Eng. World, Nov. 15, 1913; p 881; 3200 w; 10c.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Ordonez, Ezequiel.—*The Magistral District, Jalisco, Mexico.*—E. & M. J., Sept. 13, 1913; p 491; 1600 w; 25c.

Packard, George A.—*Evolution of an Electric Signal System.*—E. & M. J., Oct. 18, 1913; p 737; 1300 w*; 25c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Parker, E. W.—*Production of Arizona in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 6, 1913; p 1026; 300 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. of U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 2, 9, 16, 23, 30; Sept. 13, 20, 27; Oct. 11, 1913; 29,100 w*; 90c.

Rice, Claude T.—*Shaft Timbering in Butte Copper Mines.*—Mg. & Eng. World, Oct. 18; Nov. 1, 8, 22; Dec. 6, 20, 27, 1913; 27,800 w*; 70c.

Rice, Claude T.—*The Newer Developments at Butte Mines.*—Mg. & Eng. World, July 19, 1913; p 99; 5700 w*; 10c.

Ricketts, L. D.—*The Year at Cananea.* (Abstract of annual report Cananea Con. Co.).—M. & S. P., June 14, 1913; p 901; 2300 w*; 20c.

Severy, C. L.—*Diamond Drilling at the Poderosa Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Storms, W. H.—*The Trinity Balaklala-Vuloan Mines, Shasta County, California.*—M. & S. P., Sept. 13, 1913; p 408; 5000 w*; 20c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14 and 21, 1913; p 898 and 947; 6700 w*; 40c.

Wierum, H. F.—*Ore Bedding by the Tennessee Copper Co.*—E. & M. J., Sept. 6, 1913; p 435; 2800 w; 25c.

Wilcox, Ralph.—*Substitution of Air for Water in Diamond Drilling.* (Abstract of paper read at Butte meeting Am. Inst. Mg. Engrs.).—E. & M. J., Nov. 22, 1913; p 973; 650 w; 25c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Woodburn, J. Allan.—*Mining Copper Ores at Messina.*—Jnl. Chem., Met. & Mg. Soc. S. Af., Aug., 1913; p 53; 12 pp*; 65c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*Precious and Semiprecious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

Yeatman, Pope.—*The Braden Copper Co.* (Abstract of annual report).—M. & S. P., July 5, 1913; p 19; 1300 w; 20c.

———. *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exchg., Oct., 1913; p 5; 4300 w; 35c.

———. *Annual Report of the Minister of Mines, British Columbia.* (Summarised by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

———. *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

———. *Big increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

———. *Blast-Hole Drilling in Open-Pit Copper Mining at Copper Flat, Nev.*—M. & S. P., Oct. 25, 1913; p 643; 2600 w*; 20c.

———. *California Mineral Output in* 1912. (Report of Cal. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *California's Varied Mineral Pro-*

duction. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 890; 500 w; 10c.

———. *Chino Copper Co.'s Second Quarter Report.*—Mg. & Eng. World, Aug. 23, 1913; p 341; 1100 w; 10c.

——— *Chino Copper Co.'s Eighth Quarterly Report.*—Mg. & Eng. World, Nov. 22, 1913; p 932; 750 w; 10c.

———. *Concreting Methods in Michigan Copper Shafts.*—E. & M. J., July 12, 1913; p 66; 400 w*; 25c.

——— *Contract Systems in Michigan Copper Mines.*—E. & M. J., Dec. 20, 1913; p 1177; 2500 w; 25c.

———. *Copper Production in May.*—Mg. & Eng. World, June 21, 1913; p 1182; 250 w; 10c.

———. *Copper Producers' May Report.*—Mg. & Eng. World, June 14, 1913; p 1134; 300 w; 10c.

———. *Copper Producers' July Statement.*—Mg. & Eng. World, Aug. 16, 1913; p 289; 250 w; 10c.

———. *Costs and Development at the Ahmeek Mine, Mich.* (Abstract of annual report).—Mg. & Eng. World, June 28, 1913; 1400 w*; 10c.

———. *Costs and Profits at Butte Copper Mines.*—Mg. & Eng. World, June 21, 1913; p 1198; 400 w; 10c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Der Bergbau Japans.* [Japan's mining].—Montan & Metallindustrie-Ztg., Sept. 21, 1913; p 4; 600 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

——— *Die französische Bergwerks-industrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

———. *Efficiency in Underground Drilling.* (Abstract of address before Copper Country Club, Michigan).—M. & S. P., June 28, 1913; p 982; 650 w; 20c.

——— *Gewinnung der Bergwerke des Preussischen Staates im Jahre,* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *Handling Ore from Stock Pile at the Miami Mine, Ariz.*—M. & S. P., Nov. 1, 1913; p 885; 500 w*; 20c.

——— *Indian Mines in* 1912. (Abstract from India Geol. Surv. report).—Mg. Jnl., Oct. 18, 1913; p 982; 1600 w; 35c.

———. *Labor Troubles on Michigan Copper Range* (Editorial).—Mg. & Eng. World, Aug. 2, 1913; p 191; 650 w; 10c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—Revista Minera, Sept. 1, 1913; p 421; 1500 w; Sept. 8; p 433; 1500 w; 70c.

——— *Les Pyrites.* [Pyrites].—Le Phosphate, Sept. 15, 1913; p 877; 1200 w; 35c.

———. *L'Industrie Minerale de L'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 110 w; 35c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c.

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

——— *Michigan Mines and Industrial Accidents.* [Editorial].—Mg. & Eng. World, Oct. 25, 1913; p 729; 300 w; 10c.

——— *Michigan Shows Increased Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1147; 650 w; 10c.

——— *Mine Production of Colorado in* 1912. (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

——— *Mine Signaling at the Butte Copper Mines.*—Mg. & Eng. World, Oct. 25, 1913; p 749; 1750 w; 10c.

———. *Mineral Industry in California in* 1912. (Report of California State Mining Bureau; abstract).—Mg. & Eng. World, July 5, 1913; p 8; 600 w; 10c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report U. S. Geol. Surv.).—M. & S. P., Dec. 13, 1915; p 930; 200 w; 20c.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de Minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *Mining on the Suan Concession.* (Abstract from engineer's report).—M. & S. P., Aug. 16, 1913; p 256; 4000 w*; 20c.

——— *Mining in Tasmania in* 1912.—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1700 w; 35c.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 25c.

——— *Mining Operations in Montana in* 1913 *Greatest in State's History.*—Mg. & Eng. World, Dec. 20, 1913; p 1109; 650 w; 10c.

——— *Mining in Algeria.*—M. & S. P., Dec. 6, 1913; p 891; 2000 w; 20c.

——— *Mining in Sweden in* 1913. (U. S. Consular report).—Mg. & Eng. World., Dec. 27, 1913; p 1152; 300 w; 10c,

———. *Montana's Metal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

———. *New Developments at Jerome, Arizona.*—E. & M. J., July 26, 1913; p 145; 1600 w*; 25c.

——— *New Mexico Nearly Doubles Out-*

put in 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1114; 200 w; 10c.

———. *Notes on Lake Superior Copper Mines.*—E. & M. J., Aug. 16, 1913; p 311; 2000 w*; 25c.

——— *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines report).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

——— *Production of the Leading Coppers in August.*—Mg. & Eng. World, Sept. 27, 1913; 300 w; 10c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—See under Lead.

——— *Prussian Mining in* 1912.—Mg. Jnl., London, Dec. 6, 1913; p 1153; 2200 w; 35c.

——— *Rapport des Opérations Minières dans la Province de Québec Durant l'Année* 1912. [Report on the mining operations in the Province of Quebec during the year 1912].—Bureau of Mines, Department of Colonization, Mines and Fisheries, Province of Quebec, Canada; 260 pp*.

——— *Ray Con. Copper Co.'s Ninth Quarterly Report.*—Mg. & Eng. World, Nov. 22, 1913; p 922; 900 w; 10c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June* 30, 1912.—U. S. Dept. of the Interior; 24 pp.

——— *Report on Mining Operations in the Province of Quebec During the Year 1912.*—Dep. of Colonization, Mines & Fisheries, Quebec, Canada; 241 pp*.

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

——— *Shannon Copper Co.'s Second Quarter's Report.*—Mg. & Eng. World, Aug. 30, 1913; p 382; 600 w; 10c.

———. *Some Manganese and Copper Developments in the Olympic Mountains, Washington.*—Pacific Mg. Jnl., July, 1913; p 1; 1500 w*; 30c.

——— *Tasmanian Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

——— *The Messina Copper Co., Transvaal.*—S. Af. Mg. Jnl., Nov. 1, 1913; p 206; 2500 w*; 35c.

——— *The Mining Industry in Queensland.*—Mg. Jnl., London, Nov. 8, 1913; p 1051; 2500 w; 35c.

——— *The One-Man Drill.* (Abstract of pamphlet prepared on Lake copper strike by Copper Country Commercial Club).—M. & S. P., Nov. 1, 1913; p 692; 1500 w; 20c.

———. *The Production of Copper in* 1912.—E. & M. J., June 28, 1913; p 1279; 1000 w; 25c.

———. *Ventilation of Butte Copper Mines.*—Mg. & Eng. World, June 21, 1913; p 1184; 1100 w; 10c.

Milling, Smelting, Refining, Etc.

Alzugaray, Baxeres de.—*Rapid Advance Made in Copper Hydro-Metallurgical Methods.*—Mg. & Eng. World, June 28, 1913; p 1226; 1000 w; 10c.

Bennett, C. W.—*The Electrodeposition of Copper.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 5500 w.

Bennett, C. W., and Brown, C. O.—*Concentration Changes in the Electrolysis of Copper-Sulphate Solutions.* — Trans. Am. Electrochem. Soc., Vol. 23, 1913; 5000 w*.

Bernewitz, M. W. von.—*Smelting at Campo Seco, California.*—M. & S. P., Dec. 6, 1913; p 897; 1200 w*; 20c.

Bowen, H. P.—*Handling Sludge from Diamond-Drill Holes.*—E. & M. J., June 28, 1913; p 1289; 350 w; 25c.

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpt from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Burns, W. T.—*Electrolytic Refining of Copper Precipitate.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Sept. 13, 1913; p 469; 1500 w; 10c.

Burns, Willis T.—*The Great Falls Electrolytic Copper Refinery.* (Paper read before Am. Inst. Mg. Engrs.; abstract).—Met. & Chem. Engr., Sept., 1913; p 509; 9500 w*; 35c.

Clevenger, G. Howell.—*The Temperature of Certain Operations in the Metallurgy of Copper and Lead.*—Met. & Chem. Engg., Aug., 1913; p 447; 2500 w*; 35c.

Coleman, A. P.—*Metallurgy of Sudbury Copper-Nickel Ores.* (Abstract from Monograph issued by Dept. of Mines, Canada; p 1069; 2600 w; 10c.

Coleman, A. P.—*Nickel Smelting by the Mond Process.* (Excerpt from Bull. 170, Canada Dept. Mines).—M. & S. P., Sept. 13, 1913; p 412; 6000 w*; 20c.

Demorest, D. J.—*Electrolytic Determination of Copper in Certain Ores.* (Abstract from Jnl. Ind. & Eng. Chem.).—Mg. & Eng. World, Aug. 2, 1913; p 208; 1200 w; 10c.

Demorest, D. J.—*The Analysis of Alloys of Lead, Tin, Antimony and Copper.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 842; 2000 w; 65c.

Döring, Th.—*Forschritte auf dem Gebiete der Metallanalyse im Jahre* 1912. [Progress in metal analysis in 1912].—Chemiker-Ztg., Aug. 12, 1913; p 961; 1500 w; 35c.

Drosser, J. H.—*Determination of Copper by the Permanganate Method.*—Mex. Mg. Jnl., June, 1913; p 280; 1200 w; 25c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Eilers, A.—*Bag-House at Omaha Plant of A. S. & R. Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 245; 3000 w*; 10c.

Fairchild, J. G.—*Electro-Analysis of the Copper Alloys.*—Met. & Chem. Eng., July, 1913; p 380; 2200 w*; 35c.

Febles, J. C.—*Precipitation of Copper from Mine Waters.* (Transactions Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 23, 1913; 2500 w; Aug. 30, 1913; p 373; 2500 w*; 20c.

Gilchrist, Elizabeth, and Cumming, Alexander Charles.—*Note on the Electrolytic Determination of Copper in Solutions Containing Nitric Acid.*—Trans. Faraday Soc., July, 1913; p 186; 3 pp; 75c.

Haas, Herbert.—*Development of Converter Practice.*—M. & S. P., Oct. 25, 1913; p 653; 2800 w; 20c.

Hahn, O. H.—*The Kedabeg Copper-Smelting Works in the Caucasus.* (Abstract from Gluckauf).—E. & M. J., July 5, 1913; p 15; 4000 w*; 25c.

Hale, E. W.—*Copper Matte and Base*

Bullion from an Electric Spelter Furnace.—M. & S. P., Dec. 20, 1913; p 974; 1500 w; 20c.

Heberlein, Ferdinand.—*An Excursion to North American Smelting Works.* (Address delivered before Gesellschaft Deutscher Metallhütten und Bergleute; printed in Metall und Erz and translated by Herbert Hass).—M. & S. P., Nov. 8, 1913; p 713; 7000 w; 20c.

Heberlein, Ferdinand.—*Eine Exkursion auf nordamerikanische-mexikanische Blei, Zink und Kupferhütten*] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 716; 5000 w*; 50c.

Heberlein, F.—*Lead, Zinc and Copper Smelting in America.* (A record of observations on current American metallurgical practice compared with European; translation in Metall und Erz).—E. & M. J., Nov. 8 and 15, 1913; p 871 and 909; 7000 w*; 50c.

Hunt, H. D.—*Laboratory Methods in Use at the Miami Copper Co.* (Abstract from Colo. Sch. of Mines Mag.).—Mex. Mg. Jnl., July, 1913; p 339; 7000 w; 35c.

Hüser, Frederich.—*Kupferraffination mit Magnesium;* [Copper refining with magnesium].—Metall & Erz, May 22, 1913; p 479; 1500 w*; 50c.

Irving, Joseph.—*Lixiviation of Low-Grade Copper Ores.*—S. L. Mg. Rev., July 30, Aug. 15, Aug. 30, 1913; 10,000 w*; 75c.

Jacobs, E.—*Improvements at the Consolidated Co.'s Smelting Works at Trail, B. C.*—Canadian Mg. Jnl., Aug. 15, 1913; p 517; 2000 w; 35c.

Jacobs, E.—*Improvements in Smelting at the Consolidated Company's Works, Trail, B. C.*—Met. & Chem. Engg., Oct., 1913; p 562; 1800 w; 35c.

Johnson, F.—*Improving the Quality of Arsenical Copper.* (Abstract of paper read before British Inst. of Metals).—Mg. & Eng. World, Dec. 13, 1913; 400 w; 10c.

Kranafeldt, P.—*Electromagnetic Ore Concentration by the Ullrich Separator.*—Canadian Mg. Jnl., Nov. 15, 1913; p 703; 3600 w*; 35c.

Laist, Frederick.—*Roasting and Leaching Tailings at Anaconda.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Sept. 27, 1913; p 545; 3200 w*; Oct. 7, 1913; p 599; 2800 w*; 20c.

Leuvrier, Francis.—*A New Type of Electrical Furnace for the Reduction of Ores.*—Met. & Chem. Engg., Dec., 1913; p 710; 4300 w*; 35c.

Lloyd, R. L.—*Sintering Sulphide Ores at High Altitudes.* [Results obtained by Dwight & Lloyd Machines at Cerro de Pasco Smelter, Peru.]—M. & S. P., June 14, 1913; 1000 w; 20c.

Lord, Nathaniel Wright, and Demorest Dana J.—*Metallurgical Analysis, Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 (book).

Lyon, Dorsey A., and Keeney, Robert M.—*The Smelting of Copper Ores in the Electric Furnace.* (Paper read before Am. Inst. Mg. Engrs.).—Mg. Jnl., London, Sept. 20, 1913; p 909; 2800 w; 35c.

Lyon, Dorsey A., and Keeney, R. M.—*The Electric Furnace in Western Metallurgy.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1063; 5000 w; 10c. M. & S. P., Nov. 1, 1913; p 686; 7000 w; 20c.

Mackechnie, R. D.—*Notes on Assay Standards.*—Mg. Mag., Nov., 1913; p 373; 600 w; 35c.

Martin, A. H.—*Control of Noxious Smelter Fumes.*—M. & M., May, 1913; p 201; 4500 w*; 20c.

Mathewson, E. P.—*Development of the Basic-Lined Converter for Copper Mattes.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 2, 1913; p 212; 750 w*; 10c. M. & S. P., July 12, 1913; p 61; 750 w; 20c.

McLaughlin, J. P. M.—*The New Smelting Works of the Calumet & Arizona Co.*—S. L. Mg. Rev., Oct. 30, 1913; p 15; 4000 w*; 25c.

Megraw, Herbert A.—*Ores Amenable to Cyanidation.*—E. & M. J., Oct. 4, 1913; 6000 w; 25c.

Neumann, B.—*Das Metallhüttenwesen im Jahre 1912.* [Metallurgy in 1912].—Glückauf, Oct. 11, 1913; p 1678; 7000 w; 50c.

Oberhelman, G. O., and Browning, P. E.—*On the Preparation of Tellurous Acid and Copper Ammonium Tellurite.*—Am. Jnl. Sci., Oct., 1913; p 399; 2 pp; 65c.

Offerhaus, C. — *Copperhill - Praxis im Verschmelzen von Kupfererzen nach dem Pyritverfahren.* [Copperhill practice in the smelting of copper ores by the pyritic method].—Metall & Erz, Nov. 8, 1913; p 863; 3000 w; 50c.

Ortin, M. F.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken;* [The smelting of gold and silver-bearing copper ores at the Blagodatny Works].—Metall & Erz, June 22, 1913; p 543; 5600 w*; July 8; p 586; 4400 w*; July 22, 1913; p 612; 13,000 w*; Oct. 8, 1913; p 799; 3500 w*; Oct. 22, 1913; p 835; 1800 w*; $2.

Ortin, M. F., and Ropp, Baron A. v. d.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken.* [Discussion of Mr. Ortin's article "The smelting of gold and silver-bearing ores at the Blagodatny works"].—Metall & Erz, Nov. 8, 1913; p 874; 1200 w; 50c.

Palmer, Chase, and Bastin, Edson S.—*The Role of Certain Metallic Minerals in Precipitating Gold and Silver.* (Paper read before Am. Inst. Mg. Engrs.; continuation).—Mg. Jnl., London, June 7, 1913; p 564; 2800 w; 35c.

Pazos y Sacio, Vincente.—*Smelting in Shaft Furnaces in Great Altitudes.*—Sch. of Mines Quarterly, July, 1913; p 344; pp 15*; 65c. Abstract in M. & S. P., July 26, 1913; p 145; 4000 w*; 20c.

Peterson, Peter E.—*Bullwhacker Leaching Plant, Butte, Mont.*—Mg. & Eng. World, Oct. 4, 1913; p 585; 1800 w*; 10c.

Peterson, Peter E.—*Copper Leaching at Butte, Mont.*—Mg. & Eng. World, Sept. 6, 1913; p 423; 2600 w*; 10c.

Pratt, R. Stephen.—*Semi-Pyritic Smelting in Mexico.* [Minneapolis Co.'s plant].—E. & M. J., June 14, 1913; p 1191; 1600 w; 25c.

Pulsifer, H. B.—*Lead-Refining Plant at Omaha, Neb.*—Mg. & Eng. World, Sept. 13, 1913; p 457; 1900 w*; 10c.

Read, Thomas T.—*Copper Smelting Practice in the Southwest.*—M. & S. P., Oct. 4, 1913; p 521; 8000 w*; 20c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—New York and London; 452 pp*; $4.50; (book).

Rooke-Crowell, John.—*The Leaching of Copper Ores.*—M. & S. P., Aug. 23, 1913; p 294; 3400 w; 20c.

Rosenhain and Archbutt.—*Les Alliages d'Aluminium et de Zinc.* [The alloys of aluminum and zinc] (Translation in abstract of the Tenth Report of the Committee on Alloys).—Revue de Métallurgie, July, 1913; p 822; 8000 w*; $1.15.

Schimerka, Francis S.—*Leaching Shannon Copper Ores.*—E. & M. J., Dec. 13, 1913; p 1107; 3800 w; 25c.

Schoeller, W. R.—*An Illustration of the Partial Pyrite Process.*—Jnl. Soc. Chem. Ind., July 31, 1913; p 736; 1600 w; 65c.

Schoeller, W. R.—*Experiments on the Hydrometallurgical Treatment of Copper Slimes.*—Jnl. Soc. Chem. Ind., London, July 15, 1913; p 677; 8 pp*; 65c.

Seeber, R. B.—*Winona Stamp Mill, Mich.* (Paper read before L. S. Mg. Inst.).—Met. & Chem. Engr., Oct., 1913; p 549; 4500 w*; 25c.

Sembdner, Dr.—*Einiges aus der Zinnhüttenpraxis.* [Notes on tin-metallurgy practice].—Metall & Erz, Sept. 22, 1913; p 772; 3200 w; 50c.

Slater, H. B.—*Slater Lixiviation Process.* [Communication].—E. & M. J., Dec. 13, 1913; p 1133; 1300 w; 25c.

Sorensen, S. S.—*Roasting at Steptoe Valley Smelting Works, Nevada.*—E. & M. J., June 28, 1913; p 1273; 1500 w*; 10c.

Stansbie, J. H.—*Note on the Electrolysis of Nitric Acid Solutions of Copper.*—Trans. Faraday Soc., July, 1913; p 11; 3 pp; 50c. Abstract in Mg. & Eng. World, Oct. 25, 1913; p 734; 1000 w; 10c.

Steck, E. H.—*Neuere Ofentypen im Kupferhüttenbetriebe.* [Recent types of furnaces in copper smelting].—Metall & Erz, Dec 8, 1913; p 929; 2200 w*; 50c.

Styri, Haakon.—*Basisches Verschmelzen von Kupferstein;* [Basic melting of copper matte].—Metall & Erz, June 8, 1913; p 515; 5200 w*; June 22, 1913; p 554; 1600 w; $1.

Thompson, H. N., and Sicka, L. T.—*Tooele Plant of International Smelting Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 16, 1913; p 291; 3000 w; 10c.

Traphagen, F. W.—*Concentration and Reverberatory Smelting of a Second-class Ore.*—Met. & Chem. Engg., Sept., 1913; p 497; 3500 w; 35c.

Vail, Richard E.—*New Smelter of the United Verde Copper Co., Arizona.*—E. & M. J., Aug. 16 and 23, 1913; p 287 and 341; 9000 w*; 50c.

Vail, Richard H.—*The Brower Converter Hood.*—E. & M. J., June 21, 1913; p 1247; 650 w*; 25c.

Wegelin, Gustav.—*Ueber die Verwendung von Tantalelektroden zur elektroanalytischen Bestimmung von Kupfer und Zink.* [On the use of tantalum electrodes in the electro-analytical determination of copper and zinc].—Chemiker-Ztg., Aug. 19, 1913; p 989; 800 w; 35c.

Wheeler, Archer E., and Krejci, Milo W.—*Monolithic Magnetite Linings for Basic Copper Converters.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2769; 5 pp; 35c.

Willfley, C. R.—*Electrostatic Separation of Barstow-Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

Wogrinz, A.—*Ueber die Verwendung von Methylorange als Indicator bei der Titration freier Schwefelsäure in Lösungen von Kupfervitrol.* [On the use of methyl orange as indicator in the titration of free sulphuric acid in solutions of copper sulphate].—Chemiker-Ztg., July 19, 1913; p 869; 400 w; 35c.

——— *Copper Precipitants.* [Editorial].—E. & M. J., Dec. 27, 1913; p 1231; 650 w; 25c.

——— *Die elektromagnetische Aufbereitung mit besonderer Berücksichtigung des Erzscheiders Bauart Ullrichs.* [Electromagnetic ore preparations with special reference to the Ullrich ore separator].—Montanist. Rundschau, Nov. 16, 1913; p 1095; 2000 w*; 35c.

——— *Dry Concentration and Separation of Minerals.* (Describes the Plumb Pneumatic Jig).—Met. & Chem. Engg., Dec., 1913; p 722; 3000 w*; 35c.

——— *Electro-Magnetic Ore Concentration by the Ullrich Separators.*—Mg. Jnl., London, Oct. 25, 1913; p 1022; 2800 w*; 35c.

——— *Electric Smelting of Copper Ores.* [Editorial].—M. & S. P., Nov. 1, 1913; p 675; 1000 w; 20c.

———. *Elektromagnetische Aufbereitung;* [Electro-magnetic preparation of ores].—Montanist. Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

———. *Experiments in Copper Extraction at Anaconda, Mont.*—Mg. & Eng. World, July 12, 1913; p 47; 250 w; 10c.

———. *Historical Note on Copper Smelting.* (Notes from Hoovers' translation of Book IX of Agricola).—E. & M. J., Aug. 23, 1913; p 359; 3000 w; 25c.

———. *Leaching Copper Ores in Chile.* —M. & S. P., June 21, 1913; p 933; 1200 w; 20c.

———. *Leaching of Copper Ores.*—E. & M. J., Oct. 4, 1913; p 651; 1100 w; 25c.

——— *Le Traitement des Minerais de Cuivre au Four Electrique.* [The treatment of copper ores in the electric furnace]. —Echo des Mines, Oct. 9, 1913; p 1034; 1500 w; 35c.

——— *Le Traitement des Minerais de Cuivre au Four Electrique.* [The treatment of copper ores in the electric furnace].—Jnl. du Four Electriq., Sept. 15, 1913; p 385; 1400 w; 35c.

———. *New Electro-Chemical Method.*—Mg. & Eng. World, July 12, 1913; p 48; 200 w; 10c.

——— *Procédé Bourgeot pour Minerais de Zinc et de Cuivre.* [Bourgeot process for treatment of ores of zinc and copper.]—L'Echo des Mines, Aug. 14, 1913; p 891; 1000 w; 35c.

——— *Processo Bourgeot per Minerali di Zinco e Rame.* [The Bourgeot process for ores of zinc and copper].—Rass. Min. Metallurgica & Chim., Sept. 1, 1913; p 87; 800 w; 35c.

——— *Sorting, Roasting and Smelting Nickel-Copper Ore, Canadian Copper Co.*—Canadian Mg. Jnl., Aug. 1, 1913; p 482; 4000 w*; 35c.

———. *Sulphuric Acid Leaching.* [Editorial].—M. & S. P., Aug. 16, 1913; p 252; 1300 w; 20c.

——— *The Douglas (Ariz.) Agglomerating Cone.*—E. & M. J., Oct. 4, 1913; p 627; 1000 w*; 25c.

——— *The Great Falls Reduction Works.* (Abstract of pamphlet issued by Anaconda Co. for A. I. M. E. meeting at Butte).—E. & M. J., Oct. 11, 1913; p 677; 1800 w*; 25c.

——— *The Herreshoff Roasting Furnace.* —M. & S. P., Nov. 1, 1913; p 683; 1600 w*; 20c.

———. *The Reduction of Lead-Copper Mattes in the Electric Furnace.* (Abstract from Proc. Inst. for Metal Smelting & Electromet. at Tech. Acad. of Aix-la-Chapelle).—Mg. & Eng. World, Aug. 2, 1913; p 217; 500 w; 10c.

——— *Zur Kenntnis der Berg- und* China].—Berg & Hüttenmännische Rundmining and metallurgical industries in *Hüttenindustrie in China.* [Concerning the schau, Sept. 20, 1913; p 309; 2800 w; 35c.

Geology

Allen, Carl A.—*The Platoro District, Colorado.*—E. & M. J., Sept. 27, 1913; p 575; 2400 w*; 25c.

Ball, Sydney H.—*Sandstone Copper Deposits at Bent, New Mexico.*—M. & S. P., July 26, 1913; p 132; 3500 w*; 20c.

Clifford, James O.—*Formation and Growth of Disseminated Copper Deposits.* —M. & M., June, 1912; p 221; 3500 w; 20c.

Dresser, John A.—*Reconnaisance Along the National Transcontinental Railway in Southern Quebec.*—Memoir 35, Canada Dept. of Mines, Geol. Surv.; 42 pp*.

Emmons, William Harvey.—*The Enrichment of Sulphide Ores.*—Bull. 529, U. S. Geol. Surv.; 260 pp. Mg. Sci., Aug., 1913; p 102; 1000 w; 35c.

Graton, L. C.—*Investigation of Copper Enrichment.*—E. & M. J., Nov. 8, 1913; p 885; 2000 w; 25c.

Graton, L. C., and Murdoch, Joseph.—*Sulphide Ores of Copper and the Date of Their Chemical Transformation* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. Sci., July, 1913; p 46; 1600 w*; 35c.

Grout, Frank F.—*The Behavior of Cold Acid Sulphate Solutions of Copper, Silver and Gold with Alkaline Extracts of Metallic Sulphides.*—Econ. Geol., Aug., 1913; p 407; 27 pp; 65c.

Hore, Reginald E.—*Magmatic Origin of Sudbury Nickel-Copper Deposits.* (Paper read before Canadian Mg. Inst.; abstract). —Canadian Mg. Jnl., July 15, 1913; p 437; 6500 w*; 35c.

Knopf, Adolph.—*Ore Deposits of the Helena Mining Region, Montana.*—Bull. 527, U. S. Geol. Surv.; 143 pp*.

Linforth, Frank A.—*Applied Geology in the Butte Mines.*—Trans. Am. Inst. Mg. Engrs., Bull. 83, Nov., 1913; p 2611; 16 pp*; 35c.

Patton, Horace B., Hoskin, Arthur J., and Butler, G. Montague.—*Geology and Ore Deposits of the Alma District, Park County, Colorado.*—Bull. 3, Colo. State Geol. Surv.; 284 pp*.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp.

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Kolorado)*; [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913; p 885; 1900 w*; 50c.

Sales, Reno.—*Origin of the Butte Chalcocite.* (Trans. Am. Inst. Mg. Engrs.; abstract).—M. & S. P., Sept. 20, 1913; p 453; 8000 w; 25c. E. & M. J., Sept. 6, 1913; p 439; 2000 w; Sept. 27, 1913; p 587; 3000 w; 50c.

Schoeller, W. R.—*Ore Deposits of Hu-nan and Hu-peh, China.*—Jnl. Soc. Chem. Ind., May 31, 1913; p 517; 3000 w; 65c.

Shannon, Earl V.—*Secondary Enrichment in the Caledonia Mine, Coeur d'Alene District, Idaho.*—Economic Geol., Sept., 1913; p 565; 6 pp; 65c.

Storms, William H.—*Geology of the Woody Copper District, California.*—E. & M. J., Oct. 4, 1913; p 635; 700 w; 25c.

Thiel, H., and Müller, H.—*The Gold-Copper Ore Deposits of the Guanaco, Chile.* (Translation from Die Zeitschrift für praktische Geologie, July, 1913).—Mg. Jnl. London, July 26, 1913; p 719; 1100 w; 35c.

Toll, Rensselaer H.—*La Plata Mountains, Colorado.*—M. & S. P., Nov. 29, 1913; p 849; 2200 w*; 20c.

Vattier, Carlos.—*Iron Ore Deposits of Chile.* (Translated from Bol. de la Soc. Nac. de Minera).—M. & S. P., Dec. 6, 1913; p 893; 4500 w*; 20c.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dept. of Mines, Geol. Survey; 62 pp*.

——— *Alaska Coast Development; Ketchikan.*—Alaska & N. W. Mg. Jnl., Nov., 1913; p 81; 4200 w*; 30c.

——— *Region South of the Ducktown Copper Area.* (U. S. Geol. Surv. report).—Mg. & Eng. World, Oct. 4, 1913; p 607; 1300 w; 10c.

Miscellaneous

Alderson, Matt. W.—*Changes in Butte in Quarter Century.* (Fourth article).—Mg. & Eng. World, June 14, 1913; p 1151. 2250 w; 10c.

Bartels, Bergassessor.—*Die Lage der Kupferindustrie Russlands im Jahre* 1912. [The status of Russia's copper industry in 1912].—Zts. Berg. Hütten & Salinenw., Vol. 61, Part 3, 1913; p 451; 2200 w; $1.50.

Bennett, C. W.—*The Electrodeposition of Brass and Bronze.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 3000 w.

Buck, D. M.—*Copper in Steel; The Influence on Corrosion.*—Jnl. Ind. & Engg. Chem., June, 1913; p 447; 4000 w*; 65c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Clevenger, G. Howell and Ray, B.—*The Influence of Copper Upon the Physical Properties of Steel.*—Bull. 82. Am. Inst. Mg. Engrs., Oct., 1913; p 2437; 44 pp*; 35c.

Douglas, James.—*Handling Flue-Dust at the Copper Queen Smelter.* (Reply to discussion of paper read before Inst. Mg. & Met.).—M. & S. P., Dec. 13, 1913; p 929; 1300 w*; 20c.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Douglas, James.—*The Relative Importance of Principles and Practice in Education* (Address Colo. Sch. of Mines).—Met. & Chem. Eng., July, 1913; p 377; 5500 w; 35c.

Edholm, C. L.—*Motor-Truck Ore Haulage in Arizona.* [At Calumet & Copper Creek property].—E. & M. J., June 14, 1913; p 1177; 1500 w*; 25c.

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year*

1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German Empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Frederich, K. — *Untersuchungen über Schichten bilende Systeme;* [Investigations of layer-forming systems of molten metals].—Metall & Erz, July 8, 1913; p 575; 5300 w*; 50c.

Gillett, H. W., and Norton, A. B.—*The Approximate Melting Points of Some Commercial Copper Alloys.*—Tech. Paper 60, Mineral Tech. 5; U. S. Bur. Mines, 9 pp*.

Handy, James Otis.—*The Manufacture, Properties and Uses of Composite Metal Made by Alloying or Welding Copper and Steel.*—Jnl. Ind. & Engg. Chem., Nov., 1913; p 884; 9500 w*; 65c.

Koch, Berthold.—*Ueber Messinganalyse.* [On the analysis of brass].—Chemiker-Ztg., July 22, 1913; p 873; 2400 w; 35c.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys].—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Reichinstein, D.—*Beitrag zur Theorie der Chemischen Polarisation der Umkehrbaren Elektroden. Das Anodische Verhalten von Hg-Cu und Ag-Cu Legierungen;* [Contribution to the theory of chemical polarization of reversible electrodes. The anodic behavior of Hg-Cu and Ag-Cu alloys].—Zts. Elektrochemie, July 1, 1913; p 520; 5400 w*; 45c.

Reichinstein, D., and Zieren, A.—*Ueber den Einfluss der Zusätze von Freier Schwefelsäure, sowie ihrer Neutralsalze zum Elektrolyten auf die Kathodische Polarisation der Cu-$CuSO_4$ Elektrode;* [On the influence of additions of free sulphuric acid, as well as its neutral salts, to the electrolyte on the cathodic polarization of the Cu-$CuSO_4$ electrode]. — Zts. Elektrochemie, July 1, 1913; p 530; 1500 w*; 45c.

Robin, Felix.—*Dévelopment des Grains de Recuit dans les Alliages.* [Development of grains in alloys by annealing].—Revue de Metallurgie, June, 1913; p 758; 1700 w*; $1.15.

Robin, Felix.—*Recherches sur le Développement des Grains des Métaux par Recuit Après Écrouissage.* [Researches on the velopment of the grains of metals by alloying after hammering].—Revue de Metallurgie, June, 1913; p 722; 6000 w*; $1.15.

Steele, Heath.—*Copper Prices, Consumption and Supply.*—E. & M. J., Dec. 6, 1913; p 1061; 4000 w*; 25c.

Steele, Heath.—*The Cost of Copper.*—E. & M. J., Aug. 9, 1913; p 231; 7000 w; 25c.

Stutzer, O.—*Ueberblick über die nutzbaren Lagerstätten Katangas.* [A survey of the useful deposits of Katanga, Belgian Congo].—Metall & Erz, Aug. 30, 1913; p 679; 3300 w*; 50c.

Thompson, Arthur P.—*The Relation of Pyrrhotite to Chalcopyrite and Other Sulphides.*—Sch. of Mines Quarterly, July, 1913; p 385; pp 16*; 65c.

Welbourn, Burkewood.—*Insulated and Bare Copper and Aluminum Cables for the Transmission of Electrical Energy, with Special Refreence to Mining Work.* (Abstract from paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 916; 7000 w*; 35c. Electrician, London, June 20, 1913; p 439; 4500 w; 35c.

Whitman, Alfred R.—*Synthesis of Pyrite.* (Abstract from Cal. Jnl. of Tech.).—M. & S. P., Dec. 13, 1913; p 928; 1300 w; 20c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institut der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School, Aachen]; Vol. 5.—Halle, 1913; 160 pp*; $5; (book).

——— *Analyzed Irons and Steels—Methods of Analysis.*—Circular No. 14, Bureau of Standards, U. S. Dep. of Commerce; 15 pp.

———. *Copper Exports; June.*—Mg. & Eng. World, July 12, 1913; p 55; 100 w; 10c.

———. *Copper at the Midyear* (Editorial).—E. & M. J., July 12, 1913; p 81; 600 w; 25c.

———. *Copper Producers' Association; June Report.*—Mg. & Eng. World, July 12, 1913; p 55; 300 w; 10c.

——— *Copper Stocks Decrease in August.* (Statement of Copper Producers' Asso.).—Mg. & Eng. World, Sept. 13, 1913; p 464; 300 w; 10c.

——— *Copper Stocks Decrease in September.*—Mg. & Eng. World, Oct. 11, 1913; p 636; 400 w; 10c.

——— *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co., A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

———. *Leading Copper Producers in July.*—Mg. & Eng. World, Aug. 23, 1913; p 500 w; 10c.

———. *Mineral Imports of the United Kingdom.*—Mg. Jnl., London, June 21, 1913; p 591; 2300 w; 35c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

———. *Preise unedler Metalle im ersten Halbjahr* 1913; [Prices of base metals in the first half of 1913].—Bergwerks-Ztg., July 17, 1913; p 1; 800 w; 35c.

——— *Surplus Copper Stocks Show Increase in November.*—Mg. & Eng. World, Dec. 13, 1913; p 1072; 500 w; 10c.

——— *The Copper Situation.* (Editorial).—M. & S. P., Oct. 25, 1913; p 639; 1000 w; 20c.

——— *The Influence of Copper Upon the Physical Properties of Steel.* [Discussion of paper read at New York meeting].—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2936; 13 pp; 35c.

———. *The Lake Superior Strike.* [Editorial].—M. & S. P., Aug. 2, 1913; p 174; 500 w; 20c.

——— *The Question of Copper Metal Prices.* [Editorial].—Mg. & Eng. World, Nov. 8, 1913; p 821; 2000 w; 10c.

——— *Transactions of the American Institute of Metals, Vol. VI,* 1912.—Buffalo, N. Y., Am. Inst. of Metals; 250 pp; $3 (book).

——— *Why the Lake Copper Strike Will Fail.* [Editorial.]—Mg. & Eng. World, Nov. 15, 1913; p 876; 1800 w; 10c.

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Kolorado)*; [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913; p 885; 1900 w*; 50c.

Severy, C. L.—*Diamond Drilling at the Poderosa Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Shannon, Earl V.—*Secondary Enrichment in the Caledonia Mine, Coeur d'Alene District, Idaho.*—Economic Geol., Sept., 1913; p 565; 6 pp; 65c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 29, 1913; p 963; 2500 w*; 10c.

Tait, P. G.—*The Magnet Silver-Lead Mine, Tasmania* (Abstract from Mg. & Eng. Rev.).—M. & S. P., July 19, 1913; p 102; 1200 w; 20c.

Thom, W. T.—*Record Mineral Production of the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Tyrrell, J. B.—*Silver Veins in South Lorrain, Ontario.*—Can. Mg. Jnl., June 1, 1913; p 329; 1000 w; 35c.

Umpleby, Joseph B.—*Mines of the Texas District, Lemhi County, Idaho.* (Abstract from Bull. 528, U. S. Geol. Surv.).—Mg. Sci., Nov., 1913; p 272; 2000 w*; 35c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14, 1913; p 898; 3500 w*; June 21, 1913; p 947; 3200 w*; 40c.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dept. of Mines, Geol. Survey; 52 pp*.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Charles G.—*Precious and Semiprecious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

———. *Annual Report of the Director of the Mint for the Fiscal Year Ended June* 30, 1912, *and Also Report on the Production of the Precious Metals in the Calendar Year* 1911.—Document No. 2671, U. S. Treasury Dep.; 317 pp.

——— *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exch., Oct., 1913; p 5; 4300 w; 35c.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarized by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

——— *Big Increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *Der Bergbau in China, Konsulardesirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

———. *Development of the Rochester Mining District, Nevada.*—Mg. & Eng. World, June 28, 1913; p 1239; 800 w; 10c. M. & S. P., June 28, 1913; p 994; 1000 w; 20c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—Bergwerks-Ztg., Aug. 1, 1913; p 285; 1000 w; Aug. 12, 1913; p 1; 1800 w; Aug. 13; 1000 w; Aug. 14; 1600 w; Aug. 15; 900 w; $1.75.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

——— *Die Minenindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

——— *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15, 1913; p 346; 800 w; 35c.

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—Revista Minera, Sept. 1, 1913; p 421; 1500 w; Sept. 8; p 433; 1500 w; 70c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c.

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

——— *Mine Production of Colorado in* 1912. (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report. U. S. Geol. Surv.).—M. & S. P., Dec. 13, 1913; p 930; 200 w; 20c.

——— *Mineral Production of New Zealand in* 1912.—E. & M. J., Dec. 6, 1913; p 1116; 300 w; 25c.

———. *Mining Operations in Montana in* 1913 *Greatest in State's History.*—Mg. & Eng. World, Dec. 20, 1913; p 1109; 650 w; 10c.

——— *Mining in Sweden in* 1912. (U. S. Consular report).—Mg. & Eng. World, Dec. 27, 1913; p 1152; 300 w; 10c.

——— *Mining in Tasmania in* 1912.—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1100 w; 35c.

——— *Montana's Metal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

———. *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines re-

port).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June 30, 1912.*—U. S. Dept. of the Interior; 24 pp.

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

———. *Tasmanian Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

———. *The Nipissing Mine, Ontario.*—Mg. Mag., London, June, 1913; p 402; 1200 w; 35c.

Metallurgy, Chemistry, Cyaniding, Etc.

Allen, A. W.—*Solution Control in Cyanidation.*—M. & S. P., Sept. 30, 1913; p 448; 5200 w; 20c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice, 1910 to* 1913.—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Bernewitz, M. W. von.—*Lead Salts in Cyanidation.*—M. & S. P., Nov. 15, 1913; p 757; 4500 w; 20c.

Bernewitz, M. W. von.—*Smelting at Campo Seco, California.*—M. & S. P., Dec. 6, 1913; p 897; 1200 w*; 20c.

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpts from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Caldecott, W. A.—*Weight of Tube Mill Pebble Loads* (From Jnl. Chem. Met. & Mg. Soc., S. Afr., Feb., 1913).—Met. & Chem. Eng., July, 1913; p 417; 500 w; 35c.

Carpenter, Jay A.—*Operation of the West End Mill, Tonopah, Nevada.*—M. & S. P., Aug. 2, 1913; p 191; 2000 w; 20c.

Cohen, Louis.—*Some Interesting Experiments in Cyanidation.* (Abstract of paper read before Teknik Club, Denver).—Mg. & Eng. World, Nov. 22, 1913; p 933; 1400 w; 10c.

Denny, James J.—*Desulphurizing Silver Ores at Cobalt, Ont.*—M. & S. P., Sept. 27, 1913; p 484; 5000 w*; 20c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Flagg, A. L.—*Concentrating High-Grade Fines by Hand.*—E. & M. J., July 12, 1913; p 69; 900 w; 25c.

Frary, Francis C.—*The Electrodeposition of Gold and Silver.*—Trans. Am. Electrochem. Soc., Vol. 23; p 25; 18,000 w.

Grout, Frank F.—*The Behavior of Cold Acid Sulphate Solutions of Copper, Silver and Gold with Alkaline Extracts of Metallic Sulphides.*—Econ. Geol., Aug., 1913; p 407; 27 pp; 65c.

Guglialmelli, Luis.—*Acción de la Plata Coloidal sobre los Cloruros de Oro y de Platino.* [Action of coloidal silver on the chlorides of gold and platinum. A new method for obtaining coloidal gold].—Anales Soc. Cient. Argentina, Jan., 1913; p 41; 2800 w; $1.25.

Hall, E. J., and Drury, C. W.—*Assay of Gold and Silver by Iron-Nail Method.* (Abstracted from Bull. Am. Inst. Mg. Engrs., June, 1913).—E. & M. J., Dec. 13, 1913; p 1125; 2300 w; 25c.

Heym, Ingenieur.—*Die Behandlung des Edelerzschlammes;* [The treatment of precious-metal-ore slime].—Kali, Erz & Kohle, June 5, 1913; p 556; 1000 w; 35c.

Hore, Reginald E.—*Amalgamation and Cyanidation of Cobalt Silver Ores.*—Canadian Mg. Jnl., Sept. 15, 1913; p 568; 5000 w*; 35c.

Hore, Reginald E.—*Nipissing Picking and Jigging Plant, Cobalt, Ont.*—Can. Mg. Jnl., June 15, 1913; p 363; 2700 w*; 35c.

Horsfall, H. A.—*Treatment of Complex Silver Ores for Small Mines.*—Mg. Sci., July, 1913; p 36; 2200 w; 35c.

Hoover, H. C.—*Historical Note on Smelting Lead and Silver* (Footnote from book IX of Hoover's translation of Agricola).—E. & M. J., July 26, 1913; p 169; 1500 w; 25c.

Jones, A. H.—*Precipitate Melting at the New Belmont Mill, Nevada.*—E. & M. J., June 14, 1913; p 1197; 650 w*; 25c.

Laucks, I. F.—*Principles and Methods of Ore Testing.*—E. & M. J., July 12, 1913; p 51; 1200 w; 25c.

Megraw, Herbert A.—*Calculation of Extraction in Cyanidation.*—E. & M. J., Sept. 6, 1913; p 441; 3000 w; 25c.

Megraw, Herbert A.—*The Black Oak Cyanide Plant, California.*—E. & M. J., June 14, 1913; p 1179; 2500 w*; 25c.

Merton, A. M.—*Zinc-Dust Precipitation of Gold and Silver.*—Mg. & Eng. World, Sept. 6, 1913; p 429; 2500 w; 10c.

Miller, John F.—*The Electrolytic Refinery at Trail, B. C.* (Abstract of paper read before Western Branch Can. Mg. Inst.).—Mg. & Eng. World, July 12, 1913; p 57; 2500 w*; 10c.

Neumann, B.—*Das Metallhüttenwesen im Jahre,* 1912. [Metallurgy in 1912].—Glückauf, Oct. 25, 1913; p 1766; 4600 w; 50c.

Ortin, M. F.—*Die Verhüttung der gold- und silberhaltigen bleiischen Kupfererze auf den Blagodatny-Werken.* [The smelting of gold and silver-bearing plumbiferous copper ores at the Blagodatny Works].—Metall & Erz, Oct. 8, 1913; p 799; 3500 w*; Oct. 22, 1913; p 835; 1800 w*; $1.

Ortin, M. F., and Ropp, Baron A. v. d.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken.* [Discussion of Mr. Ortin's article "The smelting of gold and silver-bearing ores at the Blagodatny works"].—Metall & Erz., June 22, 1913; p 543; 5600 w*; July 8; p 586; 4400 w*; July 22, 1913; p 612; 13,000 w*; Nov. 8, 1913; p 874; 1200 w; $2.

Palmer, Chase, and Bastin, Edson S.—*The Role of Certain Metallic Minerals in Precipitating Gold and Silver.* (Paper read before Am. Inst. Mg. Engrs.; continuation).—Mg. Jnl., London, June 7, 1913; p 564; 2800 w; 35c.

Pulsifer, H. B.—*Lead Refining Plant at South Chicago* [National].—Mg. & Eng. World, July 26, 1913; p 153; 2600 w*; Aug. 2, 1913; p 205; 2100 w*; 20c.

Reichinstein, D.—*Beitrag zur Theorie der Chemischen Polarisation der Umkehrbaren Elektroden. Das Anodische Verhalten von Hg-Cu und Ag-Cu Legierungen;* [Contribution to the theory of chemical polarization of reversible electrodes. The anodic behavior of Hg-Cu and Ag-Cu alloys].—Zts. Elektrochemie, July 1, 1913; p 520; 5400 w*; 45c.

Reid, Fraser.—*Milling at Cobalt, Ontario.* (Paper read at reception tendered Int. Geol. Cong. at Cobalt; abstract).—M. & S. P., Aug. 9, 1913; p 216; 2100 w*; 20c.

Rhead, E. L., and Sexton, A. H.—*Assay-*

ing and Metallurgical Analysis (Second Edition).—New York and London; 452 pp*; $4.50; (book).

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver, Platinum, and the Platinum Group Metals in Ores, Bullions and Products.* 460 pp. $4.50 (book).

Symmes, Whitman.—*The Symmes Agitator.*—M. & S. P., July 19, 1913; p 92; 1800 w*; 20c.

Trenkner.—*The Quantitative Determination of the Precious Metals, Gold, Silver and Platinum.* (Translated from Metalurgie).—Met. & Chem. Engg., Oct., 1913; p 567; 2000 w; 35c. Abstract in Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

Wilfley, C. R.—*Electrostatic Separation of Barstow Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

———. *Aluminum Dust Precipitation of Silver from Cyanide Solutions* [Contains excerpts from article in E. & M. J., by E. M. Hamilton].—Mg. Sci., July, 1913; p 43; 2100 w*; 35c.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

——— *Desulphurizing Cobalt (Ont.) Ores.* [Editorial].—M. & S. P., Sept. 27, 1913; p 483; 1000 w; 20c.

———. *Result of Investigations of the Methods of Assaying Broken Hill Ores.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 195; 46 pp; 75c.

———. *Ueber die Aufbereitung von Erzen durch Flotation.* [On the preparation of ores by flotation].—Montan-Ztg., Dec. 1, 1913; 800 w; 35c.

Miscellaneous

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Cremer, Oberbergrat.—*Bericht über eine Reise in der Chinesischen Provinz Szetschuan;* [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Fleck, Dr.—*Zur Geschichte des Bergbaues in Böhmen.* [Concerning the history of mining in Bohemia].—Glückauf, July 19, 1913; p 1136; 6200 w; 50c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hughes, Ben.—*Draining Kerr Lake, Ontario; A Novel Departure in Metal Mining.*—Mg. & Eng. World, Aug. 16, 1913; p 290; 750 w*; 10c.

King, Rufus.—*American Mining Interests in Central America.*—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

Le Grix, G., and Broniewski, W.—*Sur la Dureté des Alliages Aluminium-Argent.* [On the hardness of the aluminum-silver alloys].—Revue de Métallurgie, Aug., 1913; p 1055; 3000 w*; $1.15.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Rosa, E. B., Vinal, G. W., and McDaniel, A. S.—*The Silver Voltameter—Part III. Second Series of Quantative Experiments and the Preparation and Testing of Silver Nitrate.*—Reprint No. 201 from Bull. Bureau of Standards, Vol. 9; 60 pp.

Wade, W. Rogers.—*Minerals of the Tres Hermanas District, New Mexico.*—E. & M. J., Sept. 27, 1913; p 589; 1100 w; 25c.

Wartenberg, H. von.—*Ueber Metaldumpfdrucke;* [On the vapor tensions of metals, I.].—Zts Elektrochemie, June 15, 1913; p 482; 3500 w*; 45c.

Wartenberg, H. von.—*Ueber Silberoxyd* [On silver oxide].—Zts. Elektrochemie, June 15, 1913; p 489; 1200 w*; 45c.

Wepfer, G. W.—*Railroads and Transportation Problems in Bolivia.*—M. & S. P., July 19, 1913; p 100; 1800 w*; 20c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

——— *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de Minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

———. *Mining Enterprises in South China.* (U. S. Consular report; abstract).—Mg. & Eng. World, July 5, 1913; p 11; 200 w; 10c.

——— *Western Sections A. I. M. E. Joint Sessions at Wallace, Idaho.*—Mg. & Eng. World, Nov. 29, 1913; p 967; 5000 w; 10c.

PLATINUM

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912. (U. S. Consular Report). — Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Day, David T.—*The Production of Platinum and Allied Metals in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 7 pp. Mg. & Eng. World, Oct. 25, 1913; p 742; 1000 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans.

Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Greenwood, H. D.—*Assay Method for Palladium and Platinum.*—E. & M. J., Dec. 20, 1913; p 1175; 1000 w; 25c.

Gutbier, A.—*Zur Kenntnis des Osmiums.* [On the knowledge concerning osmium].—Chemiker-Ztg., July 17, 1913; p 857; 3500 w; 35c.

Guglialmelli, Luis.—*Acción de la Plata Coloidal sobre los Cloruros de Oro y de Platino.* [Action of coloidal silver on the chlorides of gold and platinum. A new method for obtaining coloidal gold].—Anales Soc. Cient. Argentina, Jan., 1913; p 41; 2800 w; $1.75.

Hautpick, E. de.—*Occurrence of Platinum in the Urals.*—Mg. Jnl., London, Sept. 20, 1913; p 891; 1400 w; 35c.

Hirshberg, L. K.—*Mining Platinum.*—Mex. Mg. Jnl., June, 1913; p 278; 800 w; 25c.

Hutchins, John Power.—*Dredging by Hand in Siberia.*—M. & S. P., Nov. 22, 1913; p 813; 1250 w*; 20c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Neumann, B.—*Das Metallhüttenwesen im Jahre,* 1912. [Metallurgy in 1912].—Glückauf, Oct. 25, 1913; p 1766; 4600 w; 50c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver, Platinum, and the Platinum Group Metals in Ores, Bullion and Products.* 460 pp. $4.50 (book).

Smoot, A. M.—*Suggestions on the Platinum-Palladium Assay.*—E. & M. J., Dec. 20, 1913; p 1175; 400 w; 25c.

Stovall, Dennis H.—*Method of Saving Placer Platinum on Burlap Tables.*—Mg. & Eng. World, June 14, 1913; p 1132; 650 w*; 10c.

Trenkner.—*The Quantitative Determination of the Precious Metals, Gold, Silver and Platinum.* (Translated from Metallurgie).—Met. & Chem. Engg., Oct., 1913; p 567; 2000 w; 35c. Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *Die Minenindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

——— *Russian Platinum.*—M. & S. P., Oct. 11, 1913; p 581; 1100 w*; 20c.

OSMIUM AND PALLADIUM

See under Platinum.

CHAPTER II.

COPPER.

Mines and Mining

Billingsley, Paul.—*The Southern Cross Mine, Mont.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2289; 11 pp*; 35c. Mg. & Eng. World, Nov. 1, 1913; p 721; 3200 w*; 10c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 281; 2200 w; 25c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Brinsmade, R. B.—*The Copper Mines of the Sierra Magistral, Mexico.*—Mex. Mg. Jnl., Aug., 1913; p 394; 6500 w*; 35c.

Brooks, Alfred H.—*Mineral Production of Alaska in* 1912. (From advance chapter Mineral Res. U. S.).—Mg. & Eng. World, Aug. 23, 1913; p 335; 4500 w; 10c.

Brown, W. R.—*Blast-Hole Drilling in Open-Pit Copper Mining.* (Abstract from Colo. Sch. of Mines Mag.).—Mg. & Eng. World, Oct. 25, 1913; p 735; 2100 w; 10c.

Brown, W. R.—*Blast-Hole Drilling at the Nevada Con. Property in Nevada.* (Excerpts from an article in Keystone Drill Magazine).—E. & M. J., Nov. 22, 1913; p 982; 2750 w; 25c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Butler, B. S.—*Copper in* 1912. (General Report).—Advance chapter from Mining Resources of U. S.; 64 pp.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Dunlop, J. P.—*Record Metal Production in Missouri.* (Advance report U. S. Geological Survey).—Mg. & Eng. World, June 14, 1913; p 1132; 550 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp.

Gilbert, Chester G., and Pogue, Joseph A.—*The Mount Lyell Copper District of Tasmania.*—Reprint from Proc. U. S. Natl. Museum, Govt. Ptg. Office, Washington, D. C., 26 pp*.

Gillie, John.—*Use of Electricity in Mining in the Butte District.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2305; 4 pp; 35c. Mg. & Eng. World, Nov. 22, 1913; p 926; 1300 w; 10c.

Goodall, C. W.—*The Character of the Butte Copper Ores.* (Paper read before Butte meeting Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 6, 1913; p 1025; 1300 w*; 10c.

Gwyn-Williams, R. H.—*Mining in Katanga, Congo Belge.*—Mg. Jnl., London, Aug. 23, 1913; 3000 w; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hansen, C. M.—*Drilling in Mid-Air.* [At the Bullwhacker mine, Butte].—Comp. Air Mag., Aug., 1913; p 6919; 500 w*; 20c.

Hauptick, E. de.—*Year's Progress of the Russian Copper Industry.* (Abstract from London Mg. Jnl.).—Mg. & Eng. World, Dec. 27, 1913; p 1159; 1600 w; 10c.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona during* 1913. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production over* 1911 *by Nearly* $18,000,000. (Abstract from U. S. Geol. Surv. report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes, V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey; advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C. — *Precious and Semi-precious Metals in Montana in 1912.*—Mine Production.—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912.—Mine Produc-Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912—*Mine Production.*—Adv. chap. Min. Res. of tion.—Adv. chap. Min. Res. of U. S., U. S. U. S., U. S. Geol. Survey; 74 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henglein, M.—*Der Bergbau in Grossherzogtum Baden;* [Mining in grand duchy of Baden (Germany)].—Glückauf, June 14, 1913; p 932; 6000 w*; June 21, 1913; p 974; 4800 w*; $1.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Erz & Kohle, Aug. 15, 1913; p 808; 2500 w*; 35c.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian Mg. Jnl., Oct. 15, 1913; p 643; 3000 w*; Nov. 1, 1913; p 675; 2700 w*; 70c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Jiminez, Carlos.—*Estadistica Minera del Peru*, 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Lindstädt, Bergassessor.—*Die Blei und Zinkerzlagerstätten der Provinz Guipúzcoa in Spanien mit besonderer Berücksichtigung der Grube Catavera II bei Oñate.* [The lead and zinc-ore deposits of the province of Guipúzcoa in Spain with special reference to the Catavera II mine at Oñate].—Metall & Erz, Aug. 8, 1913; p 647; 9000 w*; 50c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the Province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Precious and Semiprecious Metals in the Eastern States in* 1912; *Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McDonald, P. B.—*Stoping Methods in Michigan Mines.*—M. & S. P., July 5, 1913; p 9; 3800 w*; 20c.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Nordberg, Bruno.—*The Compressed Air System of the Anaconda Copper Mining Co.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2225; 75 pp*; 35c. Mg. & Eng. World, Nov. 15, 1913; p 881; 3200 w; 10c.

Ot, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Ordonez, Ezequiel.—*The Magistral District, Jalisco, Mexico.*—E. & M. J., Sept. 13, 1913; p 491; 1600 w; 25c.

Packard, George A.—*Evolution of an Electric Signal System.*—E. & M. J., Oct. 18, 1913; p 737; 1300 w*; 25c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Parker, E. W.—*Production of Arizona in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 6, 1913; p 1026; 300 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. of U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 2, 9, 16, 23, 30; Sept. 13, 20, 27; Oct. 11, 1913; 29,100 w*; 90c.

Rice, Claude T.—*Shaft Timbering in Butte Copper Mines.*—Mg. & Eng. World, Oct. 18; Nov. 1, 8, 22; Dec. 6, 20, 27, 1913; 27,800 w*; 70c.

Rice, Claude T.—*The Newer Developments at Butte Mines.*—Mg. & Eng. World, July 19, 1913; p 99; 5700 w*; 10c.

Ricketts, L. D.—*The Year at Cananea.* (Abstract of annual report Cananea Con. Co.).—M. & S. P., June 14, 1913; p 901; 2300 w*; 20c.

Severy, C. L.—*Diamond Drilling at the Poderosa Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Storms, W. H.—*The Trinity Balaklala-Vulcan Mines, Shasta County, California.*—M. & S. P., Sept. 13, 1913; p 408; 5000 w*; 20c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Van Ella, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14 and 21, 1913; p 898 and 947; 6700 w*; 40c.

Wierum, H. F.—*Ore Bedding by the Tennessee Copper Co.*—E. & M. J., Sept. 6, 1913; p 435; 2800 w; 25c.

Wilcox, Ralph.—*Substitution of Air for Water in Diamond Drilling.* (Abstract of paper read at Butte meeting Am. Inst. Mg. Engrs.).—E. & M. J., Nov. 22, 1913; p 973; 650 w; 25c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Woodburn, J. Allan.—*Mining Copper Ores at Messina.*—Jnl. Chem., Met. & Mg. Soc. S. Af., Aug., 1913; p 53; 12 pp*; 65c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*Precious and Semiprecious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

Yeatman, Pope.—*The Braden Copper Co.* (Abstract of annual report).—M. & S. P., July 5, 1913; p 19; 1300 w; 20c.

——— *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exchg., Oct., 1913; p 5; 4300 w; 35c.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarized by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Big increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

——— *Blast-Hole Drilling in Open-Pit Copper Mining at Copper Flat, Nev.*—M. & S. P., Oct. 25, 1913; p 643; 2600 w*; 20c.

——— *California Mineral Output in* 1912. (Report of Cal. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *California's Varied Mineral Pro-*

duction. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 890; 500 w; 10c.

———. *Chino Copper Co.'s Second Quarter Report.*—Mg. & Eng. World, Aug. 23, 1913; p 341; 1100 w; 10c.

——— *Chino Copper Co.'s Eighth Quarterly Report.*—Mg. & Eng. World, Nov. 22, 1913; p 932; 750 w; 10c.

———. *Concreting Methods in Michigan Copper Shafts.*—E. & M. J., July 12, 1913; p 66; 400 w*; 25c.

——— *Contract Systems in Michigan Copper Mines.*—E. & M. J., Dec. 20, 1913; p 1177; 2500 w; 25c.

———. *Copper Production in May.*—Mg. & Eng. World, June 21, 1913; p 1182; 250 w; 10c.

———. *Copper Producers' May Report.*—Mg. & Eng. World, June 14, 1913; p 1134; 300 w; 10c.

———. *Copper Producers' July Statement.*—Mg. & Eng. World, Aug. 16, 1913; p 289; 250 w; 10c.

———. *Costs and Development at the Ahmeek Mine, Mich.* (Abstract of annual report).—Mg. & Eng. World, June 28, 1913; 1400 w*; 10c.

———. *Costs and Profits at Butte Copper Mines.*—Mg. & Eng. World, June 21, 1913; p 1198; 400 w; 10c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Der Bergbau Japans.* [Japan's mining].—Montan & Metallindustrie-Ztg., Sept. 21, 1913; p 4; 600 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

——— *Die französische Bergwerks-industrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

———. *Efficiency in Underground Drilling.* (Abstract of address before Copper Country Club, Michigan).—M. & S. P., June 28, 1913; p 982; 650 w; 20c.

——— *Gewinnung der Bergwerke des Preussischen Staates im Jahre,* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *Handling Ore from Stock Pile at the Miami Mine, Ariz.*—M. & S. P., Nov. 1, 1913; p 885; 500 w*; 20c.

——— *Indian Mines in* 1912. (Abstract from India Geol. Surv. report).—Mg. Jnl., Oct. 18, 1913; p 982; 1600 w; 35c.

———. *Labor Troubles on Michigan Copper Range* (Editorial).—Mg. & Eng. World, Aug. 2, 1913; p 191; 650 w; 10c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—Revista Minera, Sept. 1, 1913; p 421; 1500 w; Sept. 8; p 433; 1500 w; 70c.

——— *Les Pyrites.* [Pyrites].—Le Phosphate, Sept. 15, 1913; p 877; 1200 w; 35c.

———. *L'Industrie Minerale de L'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 110 w; 35c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c.

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

——— *Michigan Mines and Industrial Accidents.* [Editorial].—Mg. & Eng. World, Oct. 25, 1913; p 729; 300 w; 10c.

——— *Michigan Shows Increased Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1147; 650 w; 10c.

——— *Mine Production of Colorado in* 1912. (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

——— *Mine Signaling at the Butte Copper Mines.*—Mg. & Eng. World, Oct. 25, 1913; p 749; 1750 w; 10c.

———. *Mineral Industry in California in* 1912. (Report of California State Mining Bureau; abstract).—Mg. & Eng. World, July 5, 1913; p 8; 600 w; 10c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report U. S. Geol. Surv.).—M. & S. P., Dec. 13, 1915; p 930; 200 w; 20c.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de Minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *Mining on the Suan Concession.* (Abstract from engineer's report).—M. & S. P., Aug. 16, 1913; p 256; 4000 w*; 20c.

——— *Mining in Tasmania in* 1912.—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1700 w; 35c.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 25c.

——— *Mining Operations in Montana in* 1913 *Greatest in State's History.*—Mg. & Eng. World, Dec. 20, 1913; p 1109; 650 w; 10c.

——— *Mining in Algeria.*—M. & S. P., Dec. 6, 1913; p 891; 2000 w; 20c.

——— *Mining in Sweden in* 1913. (U. S. Consular report).—Mg. & Eng. World., Dec. 27, 1913; p 1152; 300 w; 10c,

———. *Montana's Metal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

———. *New Developments at Jerome, Arizona.*—E. & M. J., July 26, 1913; p 145; 1600 w*; 25c.

——— *New Mexico Nearly Doubles Out-*

put in 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1114; 200 w; 10c.

———. *Notes on Lake Superior Copper Mines.*—E. & M. J., Aug. 16, 1913; p 311; 2000 w*; 25c.

——— *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines report).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

——— *Production of the Leading Coppers in August.*—Mg. & Eng. World, Sept. 27, 1913; 300 w; 10c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—See under Lead.

——— *Prussian Mining in* 1912.—Mg. Jnl., London, Dec. 6, 1913; p 1153; 2200 w; 35c.

——— *Rapport des Opérations Minières dans la Province de Québec Durant l'Année* 1912. [Report on the mining operations in the Province of Quebec during the year 1912].—Bureau of Mines, Department of Colonization, Mines and Fisheries, Province of Quebec, Canada; 260 pp*.

——— *Ray Con. Copper Co.'s Ninth Quarterly Report.*—Mg. & Eng. World, Nov. 22, 1913; p 922; 900 w; 10c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June* 30, 1912.—U. S. Dept. of the Interior; 24 pp.

——— *Report on Mining Operations in the Province of Quebec During the Year 1912.*—Dep. of Colonization, Mines & Fisheries, Quebec, Canada; 241 pp*.

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

——— *Shannon Copper Co.'s Second Quarter's Report.*—Mg. & Eng. World, Aug. 30, 1913; p 382; 600 w; 10c.

———. *Some Manganese and Copper Developments in the Olympic Mountains, Washington.*—Pacific Mg. Jnl., July, 1913; p 1; 1500 w*; 30c.

——— *Tasmanian Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

——— *The Messina Copper Co., Transvaal.*—S. Af. Mg. Jnl., Nov. 1, 1913; p 206; 2500 w*; 35c.

——— *The Mining Industry in Queensland.*—Mg. Jnl., London, Nov. 8, 1913; p 1051; 2500 w; 35c.

——— *The One-Man Drill.* (Abstract of pamphlet prepared on Lake copper strike by Copper Country Commercial Club).—M. & S. P., Nov. 1, 1913; p 692; 1500 w; 20c.

———. *The Production of Copper in* 1912.—E. & M. J., June 28, 1913; p 1279; 1000 w; 25c.

———. *Ventilation of Butte Copper Mines.*—Mg. & Eng. World, June 21, 1913; p 1184; 1100 w; 10c.

Milling, Smelting, Refining, Etc.

Alzugaray, Baxeres de.—*Rapid Advance Made in Copper Hydro-Metallurgical Methods.*—Mg. & Eng. World, June 28, 1913; p 1226; 1000 w; 10c.

Bennett, C. W.—*The Electrodeposition of Copper.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 5500 w.

Bennett, C. W., and Brown, C. O.—*Concentration Changes in the Electrolysis of Copper-Sulphate Solutions.* — Trans. Am. Electrochem. Soc., Vol. 23, 1913; 5000 w*.

Bernewitz, M. W. von.—*Smelting at Campo Seco, California.*—M. & S. P., Dec. 6, 1913; p 897; 1200 w*; 20c.

Bowen, H. P.—*Handling Sludge from Diamond-Drill Holes.*—E. & M. J., June 28, 1913; p 1289; 350 w; 25c.

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpt from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Burns, W. T.—*Electrolytic Refining of Copper Precipitate.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Sept. 13, 1913; p 469; 1500 w; 10c.

Burns, Willis T.—*The Great Falls Electrolytic Copper Refinery.* (Paper read before Am. Inst. Mg. Engrs.; abstract).—Met. & Chem. Engr., Sept., 1913; p 509; 9500 w*; 35c.

Clevenger, G. Howell.—*The Temperature of Certain Operations in the Metallurgy of Copper and Lead.*—Met. & Chem. Engg., Aug., 1913; p 447; 2500 w*; 35c.

Coleman, A. P.—*Metallurgy of Sudbury Copper-Nickel Ores.* (Abstract from Monograph issued by Dept. of Mines, Canada; p 1069; 2600 w; 10c.

Coleman, A. P.—*Nickel Smelting by the Mond Process.* (Excerpt from Bull. 170, Canada Dept. Mines).—M. & S. P., Sept. 13, 1913; p 412; 6000 w*; 20c.

Demorest, D. J.—*Electrolytic Determination of Copper in Certain Ores.* (Abstract from Jnl. Ind. & Eng. Chem.).—Mg. & Eng. World, Aug. 2, 1913; p 208; 1200 w; 10c.

Demorest, D. J.—*The Analysis of Alloys of Lead, Tin, Antimony and Copper.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 842; 2000 w; 65c.

Döring, Th.—*Forschritte auf dem Gebiete der Metallanalyse im Jahre* 1912. [Progress in metal analysis in 1912].—Chemiker-Ztg., Aug. 12, 1913; p 961; 1500 w; 35c.

Drosser, J. H.—*Determination of Copper by the Permanganate Method.*—Mex. Mg. Jnl., June, 1913; p 280; 1200 w; 25c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Eilers, A.—*Bag-House at Omaha Plant of A. S. & R. Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 245; 3000 w*; 10c.

Fairchild, J. G.—*Electro-Analysis of the Copper Alloys.*—Met. & Chem. Eng., July, 1913; p 380; 2200 w*; 35c.

Febles, J. C.—*Precipitation of Copper from Mine Waters.* (Transactions Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 23, 1913; 2500 w; Aug. 30, 1913; p 373; 2500 w*; 20c.

Gilchrist, Elizabeth, and Cumming, Alexander Charles.—*Note on the Electrolytic Determination of Copper in Solutions Containing Nitric Acid.*—Trans. Faraday Soc., July, 1913; p 186; 3 pp; 75c.

Haas, Herbert.—*Development of Converter Practice.*—M. & S. P., Oct. 25, 1913; p 653; 2800 w; 20c.

Hahn, O. H.—*The Kedabeg Copper-Smelting Works in the Caucasus.* (Abstract from Gluckauf).—E. & M. J., July 5, 1913; p 15; 4000 w*; 25c.

Hale, E. W.—*Copper Matte and Base*

Bullion from an Electric Spelter Furnace.—M. & S. P., Dec. 20, 1913; p 974; 1500 w; 20c.

Heberlein, Ferdinand.—*An Excursion to North American Smelting Works.* (Address delivered before Gesellschaft Deutscher Metallhütten und Bergleute; printed in Metall und Erz and translated by Herbert Hass).—M. & S. P., Nov. 8, 1913; p 713; 7000 w; 20c.

Heberlein, Ferdinand.—*Eine Exkursion auf nordamerikanische-mexikanische Blei, Zink und Kupferhütten*] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 716; 5000 w*; 50c.

Heberlein, F.—*Lead, Zinc and Copper Smelting in America.* (A record of observations on current American metallurgical practice compared with European; translation in Metall und Erz).—E. & M. J., Nov. 8 and 15, 1913; p 871 and 909; 7000 w*; 50c.

Hunt, H. D.—*Laboratory Methods in Use at the Miami Copper Co.* (Abstract from Colo. Sch. of Mines Mag.).—Mex. Mg. Jnl., July, 1913; p 339; 7000 w; 35c.

Hüser, Frederich.—*Kupferraffination mit Magnesium;* [Copper refining with magnesium].—Metall & Erz, May 22, 1913; p 479; 1500 w*; 50c.

Irving, Joseph.—*Lixiviation of Low-Grade Copper Ores.*—S. L. Mg. Rev., July 30, Aug. 15, Aug. 30, 1913; 10,000 w*; 75c.

Jacobs, E.—*Improvements at the Consolidated Co.'s Smelting Works at Trail, B. C.*—Canadian Mg. Jnl., Aug. 15, 1913; p 517; 2000 w; 35c.

Jacobs, E.—*Improvements in Smelting at the Consolidated Company's Works, Trail, B. C.*—Met. & Chem. Engg., Oct., 1913; p 562; 1800 w; 35c.

Johnson, F.—*Improving the Quality of Arsenical Copper.* (Abstract of paper read before British Inst. of Metals).—Mg. & Eng. World, Dec. 13, 1913; 400 w; 10c.

Kranafeldt, P.—*Electromagnetic Ore Concentration by the Ullrich Separator.*—Canadian Mg. Jnl., Nov. 15, 1913; p 703; 3600 w*; 35c.

Laist, Frederick.—*Roasting and Leaching Tailings at Anaconda.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Sept. 27, 1913; p 545; 3200 w*; Oct. 7, 1913; p 599; 2800 w*; 20c.

Leuvrier, Francis.—*A New Type of Electrical Furnace for the Reduction of Ores.*—Met. & Chem. Engg., Dec., 1913; p 710; 4300 w*; 35c.

Lloyd, R. L.—*Sintering Sulphide Ores at High Altitudes.* [Results obtained by Dwight & Lloyd Machines at Cerro de Pasco Smelter, Peru.]—M. & S. P., June 14, 1913; 1000 w; 20c.

Lord, Nathaniel Wright, and Demorest Dana J.—*Metallurgical Analysis. Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 (book).

Lyon, Dorsey A., and Keeney, Robert M.—*The Smelting of Copper Ores in the Electric Furnace.* (Paper read before Am. Inst. Mg. Engrs.).—Mg. Jnl., London, Sept. 20, 1913; p 909; 2800 w; 35c.

Lyon, Dorsey A., and Keeney, R. M.—*The Electric Furnace in Western Metallurgy.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1063; 5000 w; 10c. M. & S. P., Nov. 1, 1913; p 686; 7000 w; 20c.

Mackechnie, R. D.—*Notes on Assay Standards.*—Mg. Mag., Nov., 1913; p 373; 600 w; 35c.

Martin, A. H.—*Control of Noxious Smelter Fumes.*—M. & M., May, 1913; p 201; 4500 w*; 20c.

Mathewson, E. P.—*Development of the Basic-Lined Converter for Copper Mattes.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 2, 1913; p 212; 750 w*; 10c. M. & S. P., July 12, 1913; p 61; 750 w; 20c.

McLaughlin, J. P. M.—*The New Smelting Works of the Calumet & Arizona Co.*—S. L. Mg. Rev., Oct. 30, 1913; p 15; 4000 w*; 25c.

Megraw, Herbert A.—*Ores Amenable to Cyanidation.*—E. & M. J., Oct. 4, 1913; 6000 w; 25c.

Neumann, B.—*Das Metallhüttenwesen im Jahre 1912.* [Metallurgy in 1912].—Glückauf, Oct. 11, 1913; p 1678; 7000 w; 50c.

Oberhelman, G. O., and Browning, P. E.—*On the Preparation of Tellurous Acid and Copper Ammonium Tellurite.*—Am. Jnl. Sci., Oct., 1913; p 399; 2 pp; 65c.

Offerhaus, C. — *Copperhill-Praxis im Verschmelzen von Kupfererzen nach dem Pyritverfahren.* [Copperhill practice in the smelting of copper ores by the pyritic method].—Metall & Erz, Nov. 8, 1913; p 863; 3000 w; 50c.

Ortin, M. F.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken;* [The smelting of gold and silver-bearing copper ores at the Blagodatny Works].—Metall & Erz, June 22, 1913; p 543; 5600 w*; July 8; p 586; 4400 w*; July 22, 1913; p 612; 13,000 w*; Oct. 8, 1913; p 799; 3500 w*; Oct. 22, 1913; p 835; 1800 w*; $2.

Ortin, M. F., and Ropp, Baron A. v. d.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken.* [Discussion of Mr. Ortin's article "The smelting of gold and silver-bearing ores at the Blagodatny works"].—Metall & Erz, Nov. 8, 1913; p 874; 1200 w; 50c.

Palmer, Chase, and Bastin, Edson S.—*The Role of Certain Metallic Minerals in Precipitating Gold and Silver.* (Paper read before Am. Inst. Mg. Engrs.; continuation).—Mg. Jnl., London, June 7, 1913; p 564; 2800 w; 35c.

Pazos y Sacio, Vincente.—*Smelting in Shaft Furnaces in Great Altitudes.*—Sch. of Mines Quarterly, July, 1913; p 344; pp 15*; 65c. Abstract in M. & S. P., July 26, 1913; p 145; 4000 w*; 20c.

Peterson, Peter E.—*Bullwhacker Leaching Plant, Butte, Mont.*—Mg. & Eng. World, Oct. 4, 1913; p 585; 1800 w*; 10c.

Peterson, Peter E.—*Copper Leaching at Butte, Mont.*—Mg. & Eng. World, Sept. 6, 1913; p 423; 2600 w*; 10c.

Pratt, R. Stephen.—*Semi-Pyritic Smelting in Mexico.* [Minneapolis Co.'s plant].—E. & M. J., June 14, 1913; p 1191; 1600 w; 25c.

Pulsifer, H. B.—*Lead-Refining Plant at Omaha, Neb.*—Mg. & Eng. World, Sept. 13, 1913; p 457; 1900 w*; 10c.

Read, Thomas T.—*Copper Smelting Practice in the Southwest.*—M. & S. P., Oct. 4, 1913; p 521; 8000 w*; 20c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—New York and London; 452 pp*; $4.50; (book).

Rooke-Crowell, John.—*The Leaching of Copper Ores.*—M. & S. P., Aug. 23, 1913; p 294; 3400 w; 20c.

Rosenhain and Archbutt.—*Les Alliages d'Aluminium et de Zinc.* [The alloys of aluminum and zinc] (Translation in abstract of the Tenth Report of the Committee on Alloys).—Revue de Métallurgie, July, 1913; p 822; 8000 w*; $1.15.

Schimerka, Francis S.—*Leaching Shannon Copper Ores.*—E. & M. J., Dec. 13, 1913; p 1107; 3800 w; 25c.

Schoeller, W. R.—*An Illustration of the Partial Pyrite Process.*—Jnl. Soc. Chem. Ind., July 31, 1913; p 736; 1600 w; 65c.

Schoeller, W. R.—*Experiments on the Hydrometallurgical Treatment of Copper Slimes.*—Jnl. Soc. Chem. Ind., London, July 15, 1913; p 677; 8 pp*; 65c.

Seeber, R. B.—*Winona Stamp Mill, Mich.* (Paper read before L. S. Mg. Inst.).—Met. & Chem. Engr., Oct., 1913; p 549; 4500 w*; 35c.

Sembdner, Dr.—*Einiges aus der Zinnhüttenpraxis.* [Notes on tin-metallurgy practice].—Metall & Erz, Sept. 22, 1913; p 772; 3200 w; 50c.

Slater, H. B.—*Slater Lixiviation Process.* [Communication].—E. & M. J., Dec. 13, 1913; p 1133; 1300 w; 25c.

Sorensen, S. S.—*Roasting at Steptoe Valley Smelting Works, Nevada.*—E. & M. J., June 28, 1913; p 1273; 1500 w*; 10c.

Stansbie, J. H.—*Note on the Electrolysis of Nitric Acid Solutions of Copper.*—Trans. Faraday Soc., July, 1913; p 11; 3 pp; 50c. Abstract in Mg. & Eng. World, Oct. 25, 1913; p 734; 1000 w; 10c.

Steck, E. H.—*Neuere Ofentypen im Kupferhüttenbetriebe.* [Recent types of furnaces in copper smelting].—Metall & Erz, Dec 8, 1913; p 929; 2200 w*; 50c.

Styri, Haakon.—*Basisches Verschmelzen von Kupferstein;* [Basic melting of copper matte].—Metall & Erz, June 8, 1913; p 515; 5200 w*; June 22, 1913; p 554; 1600 w; $1.

Thompson, H. N., and Sicka, L. T.—*Tooele Plant of International Smelting Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 16, 1913; p 291; 3000 w; 10c.

Traphagen, F. W.—*Concentration and Reverberatory Smelting of a Second-class Ore.*—Met. & Chem. Engg., Sept., 1913; p 497; 3500 w; 35c.

Vail, Richard E.—*New Smelter of the United Verde Copper Co., Arizona.*—E. & M. J., Aug. 16 and 23, 1913; p 287 and 341; 9000 w*; 50c.

Vail, Richard H.—*The Brower Converter Hood.*—E. & M. J., June 21, 1913; p 1247; 650 w*; 25c.

Wegelin, Gustav.—*Ueber die Verwendung von Tantalelektroden zur elektroanalytischen Bestimmung von Kupfer und Zink.* [On the use of tantalum electrodes in the electro-analytical determination of copper and zinc].—Chemiker-Ztg., Aug. 19, 1913; p 989; 800 w; 35c.

Wheeler, Archer E., and Krejci, Milo W.—*Monolithic Magnetite Linings for Basic Copper Converters.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2769; 5 pp; 35c.

Willfley, C. R.—*Electrostatic Separation of Barstow-Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

Wogrinz, A.—*Ueber die Verwendung von Methylorange als Indicator bei der Titration freier Schwefelsäure in Lösungen von Kupfervitrol.* [On the use of methyl orange as indicator in the titration of free sulphuric acid in solutions of copper sulphate].—Chemiker-Ztg., July 19, 1913; p 869; 400 w; 35c.

——— *Copper Precipitants.* [Editorial].—E. & M. J., Dec. 27, 1913; p 1281; 650 w; 25c.

——— *Die elektromagnetische Aufbereitung mit besonderer Berücksichtigung des Erzscheiders Bauart Ullrichs.* [Electromagnetic ore preparations with special reference to the Ullrich ore separator].—Montanist. Rundschau, Nov. 16, 1913; p 1095; 2000 w*; 35c.

——— *Dry Concentration and Separation of Minerals.* (Describes the Plumb Pneumatic Jig).—Met. & Chem. Engg., Dec., 1913; p 722; 3000 w*; 35c.

——— *Electro-Magnetic Ore Concentration by the Ullrich Separators.*—Mg. Jnl., London, Oct. 25, 1913; p 1022; 2800 w*; 35c.

——— *Electric Smelting of Copper Ores.* [Editorial].—M. & S. P., Nov. 1, 1913; p 675; 1000 w; 20c.

———. *Elektromagnetische Aufbereitung;* [Electro-magnetic preparation of ores].—Montanist. Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

———. *Experiments in Copper Extraction at Anaconda, Mont.*—Mg. & Eng. World, July 12, 1913; p 47; 250 w; 10c.

———. *Historical Note on Copper Smelting.* (Notes from Hoovers' translation of Book IX of Agricola).—E. & M. J., Aug. 23, 1913; p 359; 3000 w; 25c.

———. *Leaching Copper Ores in Chile.* —M. & S. P., June 21, 1913; p 933; 1200 w; 20c.

———. *Leaching of Copper Ores.*—E. & M. J., Oct. 4, 1913; p 651; 1100 w; 25c.

——— *Le Traitement des Minerais de Cuivre au Four Electrique.* [The treatment of copper ores in the electric furnace]. —Echo des Mines, Oct. 9, 1913; p 1034; 1500 w; 35c.

——— *Le Traitement des Minerais de Cuivre au Four Electrique.* [The treatment of copper ores in the electric furnace].—Jnl. du Four Electriq., Sept. 15, 1913; p 385; 1400 w; 35c.

———. *New Electro-Chemical Method.*—Mg. & Eng. World, July 12, 1913; p 48; 200 w; 10c.

——— *Procédé Bourgeot pour Minerais de Zinc et de Cuivre.* [Bourgeot process for treatment of ores of zinc and copper.]—L'Echo des Mines, Aug. 14, 1913; p 891; 1000 w; 35c.

——— *Processo Bourgeot per Minerali di Zinco e Rame.* [The Bourgeot process for ores of zinc and copper].—Rass. Min. Metallurgica & Chim., Sept. 1, 1913; p 87; 800 w; 35c.

——— *Sorting, Roasting and Smelting Nickel-Copper Ore, Canadian Copper Co.*—Canadian Mg. Jnl., Aug. 1, 1913; p 482; 4000 w*; 35c.

———. *Sulphuric Acid Leaching.* [Editorial].—M. & S. P., Aug. 16, 1913; p 252; 1300 w; 20c.

——— *The Douglas (Ariz.) Agglomerating Cone.*—E. & M. J., Oct. 4, 1913; p 627; 1000 w*; 25c.

——— *The Great Falls Reduction Works.* (Abstract of pamphlet issued by Anaconda Co. for A. I. M. E. meeting at Butte).—E. & M. J., Oct. 11, 1913; p 677; 1800 w*; 25c.

——— *The Herreshoff Roasting Furnace.* —M. & S. P., Nov. 1, 1913; p 683; 1600 w*; 20c.

———. *The Reduction of Lead-Copper Mattes in the Electric Furnace.* (Abstract from Proc. Inst. for Metal Smelting & Electromet. at Tech. Acad. of Aix-la-Chapelle).—Mg. & Eng. World, Aug. 2, 1913; p 217; 500 w; 10c.

——— *Zur Kenntnis der Berg- und* China].—Berg & Hüttenmännische Rundmining and metallurgical industries in *Hüttenindustrie in China.* [Concerning the schau, Sept. 20, 1913; p 309; 2800 w; 35c.

Geology

Allen, Carl A.—*The Platoro District, Colorado.*—E. & M. J., Sept. 27, 1913; p 575; 2400 w*; 25c.

Ball, Sydney H.—*Sandstone Copper Deposits at Bent, New Mexico.*—M. & S. P., July 26, 1913; p 132; 3500 w*; 20c.

Clifford, James O.—*Formation and Growth of Disseminated Copper Deposits.*—M. & M., June, 1912; p 221; 3500 w; 20c.

Dresser, John A.—*Reconnaisance Along the National Transcontinental Railway in Southern Quebec.*—Memoir 35, Canada Dept. of Mines, Geol. Surv.; 42 pp*.

Emmons, William Harvey.—*The Enrichment of Sulphide Ores.*—Bull. 529, U. S. Geol. Surv.; 260 pp. Mg. Sci., Aug., 1913; p 102; 1000 w; 35c.

Graton, L. C.—*Investigation of Copper Enrichment.*—E. & M. J., Nov. 8, 1913; p 885; 2000 w; 25c.

Graton, L. C., and Murdoch, Joseph.—*Sulphide Ores of Copper and the Date of Their Chemical Transformation* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. Scl., July, 1913; p 46; 1600 w*; 35c.

Grout, Frank F.—*The Behavior of Cold Acid Sulphate Solutions of Copper, Silver and Gold with Alkaline Extracts of Metallic Sulphides.*—Econ. Geol., Aug., 1913; p 407; 27 pp; 65c.

Hore, Reginald E.—*Magmatic Origin of Sudbury Nickel-Copper Deposits.* (Paper read before Canadian Mg. Inst.; abstract).—Canadian Mg. Jnl., July 15, 1913; p 437; 6500 w*; 35c.

Knopf, Adolph.—*Ore Deposits of the Helena Mining Region, Montana.*—Bull. 527, U. S. Geol. Surv.; 143 pp*.

Linforth, Frank A.—*Applied Geology in the Butte Mines.*—Trans. Am. Inst. Mg. Engrs., Bull. 83, Nov., 1913; p 2611; 16 pp*; 35c.

Patton, Horace B., Hoskin, Arthur J., and Butler, G. Montague.—*Geology and Ore Deposits of the Alma District, Park County, Colorado.*—Bull. 3, Colo. State Geol. Surv.; 284 pp*.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp.

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Kolorado)*; [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913; p 885; 1900 w*; 50c.

Sales, Reno.—*Origin of the Butte Chalcocite.* (Trans. Am. Inst. Mg. Engrs.; abstract).—M. & S. P., Sept. 20, 1913; p 453; 8000 w; 25c. E. & M. J., Sept. 6, 1913; p 439; 2000 w; Sept. 27, 1913; p 587; 3000 w; 50c.

Schoeller, W. R.—*Ore Deposits of Hu-nan and Hu-peh, China.*—Jnl. Soc. Chem. Ind., May 31, 1913; p 517; 3000 w; 65c.

Shannon, Earl V.—*Secondary Enrichment in the Caledonia Mine, Coeur d'Alene District, Idaho.*—Economic Geol., Sept., 1913; p 565; 6 pp; 65c.

Storms, William H.—*Geology of the Woody Copper District, California.*—E. & M. J., Oct. 4, 1913; p 635; 700 w; 25c.

Thiel, H., and Müller, H.—*The Gold-Copper Ore Deposits of the Guanaco, Chile.* (Translation from Die Zeitschrift für praktische Geologie, July, 1913).—Mg. Jnl. London, July 26, 1913; p 719; 1100 w; 35c.

Toll, Rensselaer H.—*La Plata Mountains, Colorado.*—M. & S. P., Nov. 29, 1913; p 849; 2200 w*; 20c.

Vattier, Carlos.—*Iron Ore Deposits of Chile.* (Translated from Bol. de la Soc. Nac. de Minera).—M. & S. P., Dec. 6, 1913; p 893; 4500 w*; 20c.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dept. of Mines, Geol. Survey; 62 pp*.

——— *Alaska Coast Development; Ketchikan.*—Alaska & N. W. Mg. Jnl., Nov., 1913; p 81; 4200 w*; 30c.

——— *Region South of the Ducktown Copper Area.* (U. S. Geol. Surv. report).—Mg. & Eng. World, Oct. 4, 1913; p 607; 1300 w; 10c.

Miscellaneous

Alderson, Matt. W.—*Changes in Butte in Quarter Century.* (Fourth article).—Mg. & Eng. World, June 14, 1913; p 1151. 2250 w; 10c.

Bartels, Bergassessor.—*Die Lage der Kupferindustrie Russlands im Jahre* 1912. [The status of Russia's copper industry in 1912].—Zts. Berg. Hütten & Salinenw., Vol. 61, Part 3, 1913; p 451; 2200 w; $1.50.

Bennett, C. W.—*The Electrodeposition of Brass and Bronze.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 3000 w.

Buck, D. M.—*Copper in Steel; The Influence on Corrosion.*—Jnl. Ind. & Engg. Chem., June, 1913; p 447; 4000 w*; 65c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Clevenger, G. Howell and Ray, B.—*The Influence of Copper Upon the Physical Properties of Steel.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2437; 44 pp*; 35c.

Douglas, James.—*Handling Flue-Dust at the Copper Queen Smelter.* (Reply to discussion of paper read before Inst. Mg. & Met.).—M. & S. P., Dec. 13, 1913; p 929; 1300 w*; 20c.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Douglas, James.—*The Relative Importance of Principles and Practice in Education* (Address Colo. Sch. of Mines).—Met. & Chem. Eng., July, 1913; p 377; 5500 w; 35c.

Edholm, C. L.—*Motor-Truck Ore Haulage in Arizona.* [At Calumet & Copper Creek property].—E. & M. J., June 14, 1913; p 1177; 1500 w*; 25c.

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year*

1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German Empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Frederich, K. — *Untersuchungen über Schichten bilende Systeme;* [Investigations of layer-forming systems of molten metals].—Metall & Erz, July 8, 1913; p 575; 5300 w*; 50c.

Gillett, H. W., and Norton, A. B.—*The Approximate Melting Points of Some Commercial Copper Alloys.*—Tech. Paper 60, Mineral Tech. 5; U. S. Bur. Mines, 9 pp*.

Handy, James Otis.—*The Manufacture, Properties and Uses of Composite Metal Made by Alloying or Welding Copper and Steel.*—Jnl. Ind. & Engg. Chem., Nov., 1913; p 884; 9500 w*; 65c.

Koch, Berthold.—*Ueber Messinganalyse.* [On the analysis of brass].—Chemiker-Ztg., July 22, 1913; p 873; 2400 w; 35c.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys].—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Reichinstein, D.—*Beitrag zur Theorie der Chemischen Polarisation der Umkehrbaren Elektroden. Das Anodische Verhalten von Hg-Cu und Ag-Cu Legierungen;* [Contribution to the theory of chemical polarization of reversible electrodes. The anodic behavior of Hg-Cu and Ag-Cu alloys].—Zts. Elektrochemie, July 1, 1913; p 520; 5400 w*; 45c.

Reichinstein, D., and Zieren, A.—*Ueber den Einfluss der Zusätze von Freier Schwefelsäure, sowie ihrer Neutralsalze zum Elektrolyten auf die Kathodische Polarisation der Cu-$CuSO_4$ Elektrode;* [On the influence of additions of free sulphuric acid, as well as its neutral salts, to the electrolyte on the cathodic polarization of the Cu-$CuSO_4$ electrode]. — Zts. Elektrochemie, July 1, 1913; p 530; 1500 w*; 45c.

Robin, Felix.—*Développement des Grains de Recuit dans les Alliages.* [Development of grains in alloys by annealing].—Revue de Metallurgie, June, 1913; p 758; 1700 w*; $1.15.

Robin, Felix.—*Recherches sur le Développement des Grains des Métaux par Recuit Après Écrouissage.* [Researches on the velopment of the grains of metals by alloying after hammering].—Revue de Metallurgie, June, 1913; p 722; 6000 w*; $1.15.

Steele, Heath.—*Copper Prices, Consumption and Supply.*—E. & M. J., Dec. 6, 1913; p 1061; 4000 w*; 25c.

Steele, Heath.—*The Cost of Copper.*—E. & M. J., Aug. 9, 1913; p 231; 7000 w; 25c.

Stutzer, O.—*Ueberblick über die nutzbaren Lagerstätten Katangas.* [A survey of the useful deposits of Katanga, Belgian Congo].—Metall & Erz, Aug. 30, 1913; p 679; 3300 w*; 50c.

Thompson, Arthur P.—*The Relation of Pyrrhotite to Chalcopyrite and Other Sulphides.*—Sch. of Mines Quarterly, July, 1913; p 385; pp 16*; 65c.

Welbourn, Burkewood.—*Insulated and Bare Copper and Aluminum Cables for the Transmission of Electrical Energy, with Special Refreence to Mining Work.* (Abstract from paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 916; 7000 w*; 35c. Electrician, London, June 20, 1913; p 439; 4500 w; 35c.

Whitman, Alfred R.—*Synthesis of Pyrite.* (Abstract from Cal. Jnl. of Tech.).—M. & S. P., Dec. 13, 1913; p 928; 1300 w; 20c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institut der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School, Aachen]; Vol. 5.—Halle, 1913; 160 pp*; $5; (book).

——— *Analyzed Irons and Steels—Methods of Analysis.*—Circular No. 14, Bureau of Standards, U. S. Dep. of Commerce; 15 pp.

———. *Copper Exports; June.*—Mg. & Eng. World, July 12, 1913; p 55; 100 w; 10c.

———. *Copper at the Midyear* (Editorial).—E. & M. J., July 12, 1913; p 81; 600 w; 25c.

———. *Copper Producers' Association; June Report.*—Mg. & Eng. World, July 12, 1913; p 55; 300 w; 10c.

——— *Copper Stocks Decrease in August.* (Statement of Copper Producers' Asso.).—Mg. & Eng. World, Sept. 13, 1913; p 464; 300 w; 10c.

——— *Copper Stocks Decrease in September.*—Mg. & Eng. World, Oct. 11, 1913; p 636; 400 w; 10c.

——— *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co., A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

———. *Leading Copper Producers in July.*—Mg. & Eng. World, Aug. 23, 1913; p 500 w; 10c.

———. *Mineral Imports of the United Kingdom.*—Mg. Jnl., London, June 21, 1913; p 591; 2300 w; 35c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

———. *Preise unedler Metalle im ersten Halbjahr* 1913; [Prices of base metals in the first half of 1913].—Bergwerks-Ztg., July 17, 1913; p 1; 800 w; 35c.

——— *Surplus Copper Stocks Show Increase in November.*—Mg. & Eng. World, Dec. 13, 1913; p 1072; 500 w; 10c.

——— *The Copper Situation.* (Editorial).—M. & S. P., Oct. 25, 1913; p 639; 1000 w; 20c.

——— *The Influence of Copper Upon the Physical Properties of Steel.* [Discussion of paper read at New York meeting].—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2936; 13 pp; 35c.

———. *The Lake Superior Strike.* [Editorial].—M. & S. P., Aug. 2, 1913; p 174; 500 w; 20c.

——— *The Question of Copper Metal Prices.* [Editorial].—Mg. & Eng. World, Nov. 8, 1913; p 821; 2000 w; 10c.

——— *Transactions of the American Institute of Metals, Vol. VI,* 1912.—Buffalo, N. Y., Am. Inst. of Metals; 250 pp; $3 (book).

——— *Why the Lake Copper Strike Will Fail.* [Editorial.]—Mg. & Eng. World, Nov. 15, 1913; p 876; 1800 w; 10c.

CHAPTER III.

LEAD AND ZINC.

LEAD

Mines, Mining, Geology

Arlt, H.—*Die Mineralschätze Tunisiens.* [The mineral wealth of Tunis].—Glückauf, July 26, 1913; p 1169; 7000 w*; 50c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912. (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Donaldson, R. J.—*The Central Mine, Broken Hill, N. S. W.*—Mg. & Engg. Rev., Aug. 5, 1913; p 438; 5000 w*; 35c.

Dresser, John A.—*Reconnaisance Along the National Transcontinental Railway in Southern Quebec.*—Memoir 35, Canada Dept. of Mines, Geol. Surv.; 42 pp*.

Duenas, Enrique I.—*La Mineria en Hualgayoc.* [Mining in Hualgayoc, Peru].—Inf. y Mem., Boletin Soc. Ing. Peru, Jan., 1913; p 1; 1800 w; 75c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Dunlop, J. P.—*Lead and Zinc in Oklahoma in* 1912. (Advance report U. S. Geol. Survey; abstract).—Mg. & Eng. World, June 14, 1913; p 1152; 250 w; 10c.

Dunlop, J. P.—*Mineral Production of the Central States in* 1912 (Mineral Res. U. S.).—Mg. & Eng. World, July 19, 1913; p 106; 2000 w; 10c.

Dunlop, J. P.—*Record Metal Production in Missouri.* (Advance report U. S. Geological Survey).—Mg. & Eng. World, June 14, 1913; p 1132; 550 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Emmons, William Harvey.—*The Enrichment of Sulphide Ores.*—Bull. 529, U. S. Geol. Surv.; 260 pp.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Fleck, Dr. Zur.—*Geschichte des Bergbaues in Böhmen.* [Concerning the history of mining in Bohemia].—Glückauf, July 19, 1913; p 1136; 6200 w; 50c.

Flores, Teodoro.—*Algunos Datos Relativos a la Mina de "La Delfina," Distrito de Bravos, Estado de Guerrero, Mex.* [Data relating to La Delfina mine, Bravos district, State of Guerrero, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 9; 2600 w*; $2.

Gerry, C. H.—*Metal Production of Idaho Larger in* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 216; 250 w; 10c.

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp.

Guese, H. A.—*Mining and Mining Methods in the Southeast Missouri Disseminated-Lead District.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2749; 20 pp*; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Heap, R. R.—*A Geological Drainage Problem in Southwestern Missouri.*—E. & M. J., Dec. 27, 1913; p 1295; 6000 w*; 25c.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona During* 1912. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production Over* 1911 *by Nearly* $18,000,000. (Abstract from U. S. Geol. Surv. report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey; advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C.—*Precious and Semi-precious Metals in Montana in* 1912.—Mine Production.—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912.—Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 74 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden.* [Mining in the grand duchy of Baden, Germany].—Glückauf, June 21, 1913; p 974; 4800 w*; 50c.

Hershey, Oscar H.—*Origin of Lead, Zinc and Silver in the Coeur d'Alene, Idaho.*—M. & S. P., Sept. 27 and Oct. 4, 1913; p 489 and 529; 10,300 w*; 40c.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Erz & Kohle, Aug. 15, 1913; p 803; 2500 w*; 25c.

Higgins, Will C.—*The Bingham Mines of the U. S. Mining Co., Utah.*—S. L. Mg. Rev., Nov. 15, 1913; p 11; 2500 w*; 25c.

Howard, L. O.—*The Silver King Coal-*

tion Mines, Utah.—S. L. Mg. Rev., Nov. 30, 1913; p 11; 5000 w*; 25c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Jiminez, Carlos.—*Estadistica Minera del Peru, 1911.* [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Jones, Dwight A.—*The St. Joseph Lead Co.* (Abstract from annual report).—M. & S. P., July 5, 1913; p 16; 3000 w; 20c.

Klockmann, F.—*Die Blei und Zinklagerstätten Aachens.* [The lead and zinc-ore deposits of Aachen, Germany] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 686; 1400 w; 50c.

Larsh, Paul A.—*Lucky Bill Lead-Vanadium Mine.*—E. & M. J., Dec. 13, 1913; p 1103; 3700 w*; 25c.

Leroy, O. E.—*Silver, Lead and Zinc Deposits of Slocan, B. C.* (Extracts from Guide Book No. 9, Geol. Surv. of Canada).—Canadian Mg. Jnl., Sept. 15, 1913; p 580; 1300 w; 35c.

Lindstädt, Bergassessor.—*Die Blei und Zinkerzlagerstätten der Provinz Guipúzcoa in Spanien mit besonderer Berücksichtigung der Grube Catavera II bei Oñate.* [The lead and zinc-ore deposits of the province of Guipúzcoa in Spain with special reference to the Catavera II mine at Oñate].—Metall & Erz, Aug. 8, 1913; p 647; 9000 w*; 50c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec. 31, 1912.*—Report; 347 pp*.

McCaskey, H. D.—*Precious and Semi-precious Metals in the Eastern States in 1912; Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year 1912.*—Canada Dep. of Mines, Mines Branch; 46 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year 1911.*—Canada Dep. of Mines, Mines Branch; 316 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Nichols, Ralph.—*The Lead-Silver Mines of Gilmore, Lemhi County, Idaho.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 27, 1913; p 1158; 1100 w*; 10c.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During 1912.*—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w*; $2.

Parker, E. W.—*Arkansas as a Mineral Producer.* (Abstract of Survey report).—Mg. & Eng. World, Nov. 8, 1913; p 832; 300 w; 10c.

Parker E. W.—*Idaho Gains in Mineral Output in 1912.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1116; 250 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in 1913.* (Advance chapter Min. Res. of U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Patton, Horace B., Hoskin, Arthur J., and Butler, G. Montague.—*Geology and Ore Deposits of the Alma District, Park County, Colorado.*—Bull. 3, Colo. State Geol. Surv.; 284 pp*.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.* (Second article).—Mg. & Eng. World, June 28, 1913; p 1231; 2700 w*; 10c.

Purdue, A. H.—*The Minerals of Tennessee; Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Kolorado);* [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913; p 885; 1900 w*; 50c.

Schoeller, W. R.—*Ore Deposits of Hu-nan and Hu-peh, China.*—Jnl. Soc. Chem. Ind., May 31, 1913; p 517; 3000 w; 65c.

Shannon, Earl V.—*Secondary Enrichment in the Caledonia Mine, Coeur d'Alene District, Idaho.*—Economic Geol., Sept., 1913; p 565; 6 pp; 65c.

Siebenthal, C. E.—*Lead in 1912.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 42 pp.

Tait, P. G.—*The Magnet Silver-Lead Mine, Tasmania* (Abstract from Mg. & Eng. Rev.).—M. & S. P., July 19, 1913; p 102; 1200 w; 20c.

Umpleby, J. B.—*Important Mining Districts in Lemhi County, Idaho.* (Abstract from Bull. 528, U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 1, 1913; p 794; 750 w; 10c.

Umpleby, Joseph B.—*Mines of the Texas District, Lemhi County, Idaho.* (Abstract from Bull. 528, U. S. Geol. Surv.).—Mg. Sci., Nov., 1913; p 272; 2000 w*; 35c.

Wade, W. Rogers.—*Minerals of the Tres Hermanas District, New Mexico.*—E. & M. J., Sept. 27, 1913; p 589; 1100 w; 25c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14, 1913; p 898; 3500 w*; June 21, 1913; p 947; 3200 w*; 40c.

Willert, Bergassessor.—*Deutschslands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dept. of Mines, Geol. Survey; 62 pp*.

Yale, Charles G.—*California Mineral Production in 1912.* (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Chas. G.—*Mine Production of Oregon in 1912.* (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*Precious and Semi-precious Metals in California and Oregon in 1912.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarised by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

——— *Big Increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

———. *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—Bergwerks-Ztg., Aug. 12, 1913; p 1; 1800 w; Aug. 13; 1000 w; Aug. 14; 1600 w; Aug. 15; 900 w; $1.40.

——— *Die Bergwerksindustrie und Bergverwaltung Preussens im Jahre* 1912. [Prussia's mining industry and mine administration in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 403; 20,000 w; $1.50.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

——— *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15, 1913; p 346; 800 w; 35c.

——— *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co., A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

——— *Gewinnung der Bergwerke des Preussischen Staates im Jahre,* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *Indian Mines in* 1912. (Abstract from India Geol. Surv. report).—Mg. Jnl., Oct. 18, 1913; p 982; 1600 w; 35c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

———. *Lead and Zinc in Kansas in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1197; 200 w; 10c.

———. *L'Industrie Minerale de L'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 110 w; 35c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

———*Mine Production of Colorado in* 1912. (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

———. *Mineral Deposits of Broken Hill, Northern Rhodesia.*—S. Af. Mg. Jnl., July 12, 1913; 3000 w; 35c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1158; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report U. S. Geol. Surv.).—M. & S. P., Dec. 13, 1913; p 930; 200 w; 20c.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 25c.

——— *Mining in Algeria.*—M. & S. P., Dec. 6, 1913; p 891; 2000 w; 20c.

——— *Mining in Sweden in* 1912. (U. S. Consular report).—Mg. & Eng. World, Dec. 27, 1913; p 1152; 300 w; 10c.

——— *Missouri's Mineral Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1143; 500 w; 10c.

——— *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines report).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

———. *Production of Lead in the United States in* 1912. [Editorial].—E. & M. J., Aug. 16, 1913; p 319; 700 w; 25c.

———. *Production of Secondary Metals in* 1912. (Advance report of U. S. Geol. Surv.).—M. & S. P., June 28, 1913; p 990; 1400 w; 20c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, 1st Statistical Number, 1913; p 1; 40 pp; $1.50.

———. *Prussian Mining in* 1912.—Mg. Jnl., London, Dec. 6, 1913; p 1153; 2200 w; 35c.

——— *Report on Mining Operations in the Province of Quebec During the Year 1912.*—Dep. of Colonization, Mines & Fisheries, Quebec, Canada; 241 pp*.

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

——— *The Lead Industry in Spain.*—Mg. Jnl., London, July 26, 1913; p 707; 1600 w; 35c.

——— *The Mining Industry in Queensland.*—Mg. Jnl., London, Nov. 8, 1913; p 1051; 2500 w; 35c.

Ore Dressing, Metallurgy, Chemistry, Etc.

Eilers, A.—*The Bag-House at the Murray Smelter, Utah.* (Proceedings Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, July 5, 1913; p 12; 3500 w*; 10c.

Eilers, A.—*Bag-House at Omaha Plant of A. S. & R. Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 245; 3000 w*; 10c.

Gartenmeister, R.—*Kathodische Bleibestimmung und Analyse von Bleilegierungen.* [Cathode-lead determination and analysis of lead alloys].—Chemiker-Ztg., Oct. 18, 1913; p 1281; 900 w; 35c.

Clevenger, G. Howell.—*The Temperature of Certain Operations in the Metallurgy of Copper and Lead.*—Met. & Chem. Engg., Aug., 1913; p 447; 2500 w*; 35c.

Crawford, R. D.—*Geology and Ore Depos-*

its of the Monarch and Tomichi Districts, Colorado.—Bull. 4, Colo. Geol. Surv.; 317 pp*.

Hebbard, James.—*Evolution of Minerals Separation Process on Central Mine, Australia.*—Trans. Aus. Inst. M. E., No. 10, 1913; 88 pp*; 75c.

Heberlein, Ferdinand.—*An Excursion to North American Smelting Works.* (Address delivered before Gesellschaft Deutscher Metallhütten und Bergleute; printed in Metall und Erz and translated by Herbert Hass). M. & S. P., Nov. 8, 1913; p 713; 7000 w; 20c.

Heberlein, Ferdinand.—*Eine Exkursion auf nordamerikanische-mexikanische Blei, Zink und Kupferhütten*] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 716; 5000 w*; 50c.

Heberlein, F.—*Lead, Zinc and Copper Smelting in America.* (A record of observations on current American metallurgical practice compared with European; translation in Metall und Erz).—E. & M. J., Nov. 8 and 15, 1913; p 871 and 909; 7000 w*; 50c.

Hoover, H. C.—*Historical Note on Smelting Lead and Silver* (Footnote from book IX of Hoover's translation of Agricola).—E. & M. J., July 26, 1913; p 169; 1500 w; 25c.

Jacobs, E.—*Improvements at the Consolidated Co.'s Smelting Works at Trail, B. C.*—Canadian Mg. Jnl., Aug. 15, 1913; p 517; 2000 w; 35c.

Jacobs, E.—*Improvements in Smelting at the Consolidated Company's Works, Trail, B. C.*—Met. & Chem. Engg., Oct., 1913; p 562; 1800 w; 35c.

Lord, Nathaniel Wright, and Demorest, Dana J.—*Metallurgical Analysis, Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 book).

Louvrier, Francis.—*A New Type of Electrical Furnace for the Reduction of Ores.*—Met. & Chem. Engg., Dec., 1913; p 710; 4300 w*; 35c.

Lyon, Dorsey A. and Kenney, Robert M.—*Possible Applications of Electric Furnaces to Western Metallurgy.* (Paper read before Am. Electrochem. Soc.).—M. & S. P., Nov. 1, 1913; p 686; 7000 w; 20c. Mg. & Eng. World, Dec. 13, 1913; p 1063; 5000 w; 10c.

Marc, R.—*Uber den Einfluss von Kolloidzusätzen auf die Kathodischen und Anodischen Vorgänge bei der Elektrolyse von Metallsalzlösungen; (Blei und Zink) I;* [Effect of Colloids on Electrolytic Deposition of Lead and Zinc].—Zeit. Elektrochemie, June 1, 1913; p 431; 15 pp*; 45c.

Mathers, Frank C.—*The Electro-deposition of Lead.*—Trans. Am. Electro-chem. Soc., Vol. 33; p 153; 7000 w; 35c.

McCaffery, R. S.—*The Electric Smelting of Lead-Zinc Ores.* (Abstract of paper read at joint meeting of Western Sections A. I. M. E.).—Mg. & Eng. World, Nov. 29, 1913; p 967; 700 w; 10c.

Megraw, Herbert A.—*Ores Amenable to Cyanidation.*—E. & M. J., Oct. 4, 1913; 6000 w; 25c.

Merton, A. M.—*Specifications and Tests for Zinc Dust.*—Mg. & Eng. World, June 28, 1913; p 1227; 2400 w; 10c.

Meuskens, Clemens.—*Die neuere Entwickelung der elektromagnetischen und elektrostatischen Erz-Aufbereitung.* [The recent development of electro-magnetic and electro-static ore preparation]. — Technische Blätter, Sept. 20, 1913; p 357; 1100 w*; Sept. 27; p 365; 1500 w*; Oct. 4; p 375; 1500 w*; $1.05.

Miller, John F.—*The Electrolytic Refinery at Trail, B. C.* (Abstract of paper read before Western Branch Can. Mg. Inst.)—Mg. & Eng. World, July 12, 1913; p 57; 2500 w*; 10c.

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metal smelting in 1912].—Glückauf, Oct. 18, 1913; p 1723; 4000 w; 50c

Niessenson, .Dir. — *Bleiersbemusterung* [Sampling of lead ore] (Abstract of paper read before the Soc. of German Chemists).—Chemiker-Ztg., Sept. 20, 1913; p 1136; 400 w; 35c.

Ortin, M. F.—*Die Verhüttung der gold- und silberhaltigen bleiischen Kupfererze auf den Blagodatny-Werken.* [The smelting of gold and silver-bearing plumbiferous copper ores at the Blagodatny Works].—Metall & Erz, Oct. 8 and 22, 1913; p 799 and 835; 5300 w*; $1.

Peterson, Peter E.—*The Electric Furnace for Zinc Smelting.*—Mg. & Eng. World, Aug. 16, 1913; p 303; 1000 w; 10c.

Pulsifer, H. B.—*The Federal Lead Co.'s Smelting Plant.*—Mg. & Eng. World, Aug. 30, 1913; p 375; 3200 w*; 10c.

Pulsifer, H. B.—*Lead Smelting Plant at Collinsville, Ill.* (St. Louis Smelting & Refining Co.).—Mg. & Eng. World, Oct. 18, 1913; p 681; 4500 w*; 10c.

Pulsifer, H. B.—*Lead Smelting at Herculaneum, Missouri.* (Plant of the St. Joseph Lead Co.).—Mg. & Eng. World, Dec. 13, 1913; p 1054; 6500 w*; 10c.

Pulsifer, H. B.—*Lead-Refining Plant at Omaha, Neb.*—Mg. & Eng. World, Sept. 13, 1913; p 457; 1900 w*; 10c.

Pulsifer, H. B.—*Lead Refining Plant at South Chicago* [National].—Mg. & Eng. World, July 26 and Aug. 2, 1913; p 153 and 205; 4700 w*; 20c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—New York and London; 452 pp*; $4.50; (book).

Rice, Claude T.—*Canvas Plant of the Federal Lead Co., Missouri.*—E. & M. J., Sept. 13, 1913; p 487; 1500 w*; 25c.

Rice, Claude T.—*Milling in Southeastern Missouri.*—E. & M. J., June 21 and 28, July 5 and 12 and Sept. 13, 1913; 21,300 w*; $1.25.

Rogers, Allen, and Aubert, Alfred E.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Thompson, H. N., and Sicka, L. T.—*Tooele Plant of International Smelting Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 16, 1913; p 291; 3000 w; 10c.

Wilfley, C. R.—*Electrostatic Separation of Barstow Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, A Preliminary Report.*—Technical Paper 41, U. S. Bureau of Mines; 43 pp*.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

——— *Die Berg und Hüttenwerksproduktion Oesterreichs im Jahre* 1912. [The

mining and metallurgical production of Austria in 1912].—Montanistische Rundschau, Oct. 16, 1913; p 981; 2500 w; 35c.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

———. *Die oberschlesische Bergwerks- und Hüttenindustrie im Jahre* 1912; [The Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

———. *Dry Concentration and Separation of Minerals.* (Describes the Plumb Pneumatic Jig).—Met. & Chem. Engg., Dec., 1913; p 722; 3000 w*; 35c.

———. *Elektromagnetische Aufbereitung.* [Electro-magnetic preparation of ores].—Montanistische Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

———. *Préparation Mécanique des Minerais de Zinc et de Plomb.* [Mechanical preparation of zinc and lead].—L'Echo des Mines, May 26, 1913; p 599; 400 w; 35c.

———. *Result of Investigations of the Methods of Assaying Broken Hill Ores.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 195; 46 pp; 75c.

———. *Tailing and Ore Treatment at Broken Hill* (Abstract from annual report of the Zinc Corporation, Ltd.).—M. & S. P., July 19, 1913; p 104; 1200 w*; 20c.

———. *The Reduction of Lead-Copper Mattes in the Electric Furnace.* (Abstract from Proc. Inst. for Metal Smelting & Electromet. at Tech. Acad. of Aix-la-Chapelle).—Mg. & Eng. World, Aug. 2, 1913; p 217; 500 w; 10c.

———. *The St. Joseph Lead Co.* (Abstract of annual report).—E. & M. J., June 14, 1913; p 1181; 1200 w; 25c.

——— *Ueber die Aufbereitung von Erzen durch Flotation.* [On the preparation of ores by flotation].—Montan-Ztg., Dec. 1, 1913; 800 w; 35c.

Miscellaneous

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Demorest, D. J.—*The Analysis of Alloys of Lead, Tin, Antimony and Copper.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 842; 2000 w; 65c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Frederich, K. — *Untersuchungen über Schichten bildende Systeme;* [Investigations of layer-forming systems of molten metals].—Metall & Erz, July 8, 1913; p 575; 5300 w*; 50c.

Kohlmeyer, Ernst J.—*Ueber Bleioxyd und Eisenoxydferrite;* [On lead-oxide and ferrous-oxide ferrites] (Last part).—Metall & Erz, May 22, 1913; p 483; 3500 w*; 50c.

Robin, Felix.—*Développment des Grains de Recuit dans les Alliages.* [Development of grains in alloys by annealing].—Revue de Metallurgie, June, 1913; p 758; 1700 w*; $1.15.

Robin, Felix.—*Recherches sur le Développement des Grains des Métaux par Recuit Après Ecrouissage.* [Researches on the development of the grains of metals by alloying after hammering.—Revue de Metallurgie, June, 1913; p 722; 6000 w*; $1.15.

Walker, Wm. H., and Patrick, Walter A.—*The Determination of Oxygen in Iron and Steel by Reduction in an Electric Vacuum Furnace.* (Paper read before Int. Cong. Appl. Chem.; abstract).—Chem. Engr., June, 1913; p 234; 2800 w*; 35c.

Wartenberg, H. von.—*Ueber Metaldampfdrucke I;* [On the vapor tensions of metals].—Zts. Elektrochemie, June 15, 1913; p 482; 3500 w*; 45c.

Whitebeck, Ray Hughes.—*The Geography and Industries of Wisconsin.*—Bull. No. 26, Educational Series No. 3, Wis. Geol. & Nat. Hist. Survey; 94 pp*.

Wilder, Richardson, T.—*Determination of Lead in Unchilled Slags.*—E. & M. J., Oct. 11, 1913; p 695; 1000 w; 25c.

———. *Method of Selling Lead and Zinc Ores.* (Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, July 12, 1913; p 62; 400 w; 10c.

———. *Mineral Imports of the United Kingdom.*—Mg. Jnl., London, June 21, 1913; p 591; 2300 w; 35c.

———. *Preise unedler Metalle im ersten Halbjahr* 1913; [Prices of base metals in the first half of 1913].—Bergwerks-Ztg., July 17, 1913; p 1; 800 w; 35c.

———. *Tariff Discussions.*—E. & M. J., Aug. 9, 1913; p 246; 400 w; 25c.

———. *The Tariff on Zinc and Lead Ores.* [Editorial].—E. & M, J., Aug. 9, 1913; p 271; 700 w; 25c.

——— *Western Sections A. I. M. E. Joint Sessions at Wallace, Idaho.*—Mg. & Eng. World, Nov. 29, 1913; p 967; 5000 w; 10c.

ZINC

Mines, Mining, Geology

Aikens, Warren.—*Electric Power for Missouri-Kansas Zinc Mines.*—Mg. & Eng. World, Aug. 16, 1913; p 295; 2000 w*; 10c.

Aikens, Warren.—*Motor Drive at Zinc Mines and Mills.*—Mg. & Eng. World, Oct. 25, 1913; p 731; 2000 w*; 10c.

Arlt, H.—*Die Mineralschätze Tunisiens.* [The mineral wealth of Tunis].—Glückauf, July 26, 1913; p 1169; 7000 w*; 50c.

Boericke, W. F.—*Churn Drilling in Southwestern Wisconsin.*—E. & M. J., Aug. 30, 1913; 3200 w*; 25c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Chapman, Temple.—*Conditions in the Joplin District, Missouri.*—E. & M. J., Aug. 30, 1913; p 393; 1800 w; 25c.

Crawford, R. D.—*Geology and Ore Deposits of the Monarch and Tomichi Districts, Colorado.*—Bull. 4, Colo. Geol. Surv.; 317 pp*.

Donaldson, R. J.—*The Central Mine, Broken Hill, N. S. W.*—Mg. & Engg. Rev., Aug. 5, 1913; p 438; 5000 w*; 35c

Dueñas, Enrique I.—*La Mineria en Hualgayoc.* [Mining in Hualgayoc, Peru.]. —Inf. y Mem. Boletin Soc. Ing. Peru, Jan., 1913; p 1; 1800 w; 75c.

Dunlop, J. P.—*Lead and Zinc in Oklahoma in* 1912. (Advance report U. S. Geol. Survey; abstract).—Mg. & Eng. World, June 14, 1913; p 1152; 250 w; 10c.

Dunlop, J. P.—*Mineral Production of the Central States in* 1912 (Mineral Rec. U. S.). —Mg. & Eng. World, July 19, 1913; p 106; 2000 w; 10c.

Dunlop, J. P.—*Record Metal Production in Missouri.* (Advance report U. S. Geological Survey).—Mg. & Eng. World, June 14, 1913; p 1132; 550 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Emmons, William Harvey.—*The Enrichment of Sulphide Ores.*—Bull. 529, U. S. Geol. Surv.; 260 pp.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Flores, Teodoro.—*Algunos Datos Relativos a la Mina de "La Delfina," Distrito de Bravos, Estado de Guerrero, Mex.* [Data relating to La Delfina mine, Bravos district, State of Guerrero, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 9; 2600 w*; $2.

Gerry, C. H.—*Metal Production of Idaho Larger in* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 216; 250 w; 10c.

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912.—tion.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Heap, R. R.—*A Geological Drainage Problem in Southwestern Missouri.*—E. & M. J., Dec. 27, 1913; p 1205; 6000 w*; 25c.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona During* 1912. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production Over* 1911 *by Nearly* $18,000,000. (Abstract from U. S. Geol. Surv. report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes, V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey: advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C.—*Precious and Semi-precious Metals in Montana in 1912.*—Mine Production.—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912.—Mine Produc-Mine Production.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912.—Mine Production. Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 74 pp.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden;* [Mining in grand duchy of Baden (Germany)].—Glückauf, June 14, 1913; p 932; 6000 w*; June 21, 1913; p 974; 4800 w*; $1.

Hershey, Oscar H.—*Origin of Lead, Zinc and Silver in the Coeur d'Alene, Idaho.*—M. & S. P., Sept. 27, 1913; p 489; 5500 w; Oct. 4, 1913; p 529; 6000 w; 40c.

Hubbard, Geo. D.—*Rare Minerals at Broken Hill, Rhodesia.*—E. & M. J., June 28, 1913; p 1297; 1800 w; 25c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Kahr, Max.—*Neuere maschinentechnische Anlagen im Zinkhüttenbetrieb.* [Recent mechanical equipment in the metallurgy of zinc].—Metall & Erz, Nov. 22, 1913; p 895; 4000 w*; 50c.

Klockmann, F.—*Die Blei und Zinklagerstätten Aachens.* [The lead and zinc-ore deposits of Aachen, Germany] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 686; 1400 w; 50c.

Lee, Richard Edwin, Uhlinger, Roy H., and Amon, Frank O.—*Method for the Qualitative Determination of the Zinc Group.* (Abstract from Jnl. Am. Chem. Soc., Vol. 35).—Mg. & Eng. World, July 12, 1913; p 56; 1300 w; 10c.

Leroy, O. E.—*Silver, Lead and Zinc Deposits of Slocan, B. C.* (Extracts from Guide Book No. 9, Geol. Surv. of Canada). —Canadian Mg. Jnl., Sept. 15, 1913; p 580; 1300 w; 35c.

Lindstädt, Bergassessor.—*Die Blei und Zinkerzlagerstätten der Provinz Guipúzcoa in Spanien mit besonderer Berücksichtigung der Grube Catavera II bei Oñate.* [The lead and zinc-ore deposits of the province of Guipúzcoa in Spain with special reference to the Catavera II mine at Oñate].—Metall & Erz, Aug. 8, 1913; p 647; 9000 w*; 50c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Precious and Semi-precious Metals in the Eastern States in* 1912; *Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911. (See under Gold.)

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Parker, E. W.—*Arkansas as a Mineral*

Producer. (Abstract of Survey report).—Mg. & Eng. World, Nov. 8, 1913; p 832; 300 w; 10c.

Parker, E. W.—*Idaho Gains in Mineral Output in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1116; 250 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. of U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.* (First article).—Mg. & Eng. World, June 21, 1913; p 1179; 2200 w*; June 28, 1913; p 1231; 2700 w*; July 5, 1913; p 16; 2500 w*; July 12, 1913; p 69; 2800 w*; July 19, 1913; p 109; 1800 w*; Sept. 27, 1913; p 541; 3000 w*; Oct. 25, 1913; p 745; 2200 w*; 70c.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Rice, Claude T.—*The Newer Developments at Butte Mines.*—Mg. & Eng. World, July 19, 1913; p 99; 5700 w*; 10c.

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Kolorado)*; [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913; p 885; 1900 w*; 50c.

Schoeller, W. R.—*Ore Deposits of Hu-nan and Hu-peh, China.*—Jnl. Soc. Chem. Ind., May 31, 1913; p 517; 3000 w; 65c.

Siebenthal, C. E.—*Midyear Statement of the Production of Spelter in the United States, Jan.* 1 *to June* 30, 1913.—U. S. Geol. Survey.

Siebenthal, C. E.—*Zinc and Cadmium in* 1912—*General Report.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 53 pp*.

Thomas, Kirby.—*Zinc Ore Deposits in Boone and Marion Counties, Arkansas.*—M. & S. P., Nov. 29, 1913; p 854; 1500 w; 20c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Wade, W. Rogers.—*Minerals of the Tres Hermanas District, New Mexico.*—E. & M. J., Sept. 27, 1913; p 589; 1100 w; 25c.

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.*—M. & S. P., June 21, 1913; p 947; 3200 w*; 20c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Zalinski, Edward R.—*Occurrence of Oxidized Zinc Ores at Tintic, Utah.*—E. & M. J., June 21, 1913; p 1227; 2500 w*; 25c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res. U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Charles G.—*Precious and Semi-precious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

——— *Bergbau und Eisenindustrie Schwedens im Jahre,* 1912. [Mining and iron industry of Sweden in 1912].—Glückauf, Oct. 25, 1913; p 1772; 4500 w; 50c.

———. *Big Increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

——— *California's Mineral Outnut in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Die Bergwerksindustrie und Bergverwaltung Preussens im Jahre* 1912. [Prussia's mining industry and mine administration in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 403; 20,000 w; $1.50.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

———. *Electricity in Zinc Mining.* [Illinois-Missouri Fields].—El. Rev. & W. Elect., July 19, 1913; p 111; 7000 w*; 25c.

——— *Gewinnung des Preussischen Staates im Jahre,* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

———. *Lead and Zinc in Kansas in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1197; 200 w; 10c.

———. *L'Industrie Minérale de l'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 1100 w; 35c.

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

———. *Mine Production of Colorado in* 1912; (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

———. *Mineral Deposits of Broken Hill, Northern Rhodesia.*—S. Af. Mg. Jnl., July 12, 1913; 3000 w; 35c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report U. S. Geol. Surv.).—M. & S. P., Dec. 13, 1913; p 930; 200 w; 20c.

———. *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 25c.

——— *Mining in Algeria.*—M. & S. P., Dec. 6, 1913; p 891; 2000 w; 20c.

——— *Mining in Sweden in* 1912. (U. S. Consular report).—Mg. & Eng. World, Dec. 27, 1913; p 1152; 300 w; 10c.

——— *Missouri's Mineral Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1143; 500 w; 10c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, 1st Statistical Number, 1913; p 1; 40 pp; $1.50.

——— *Rapport des Opérations Minières dans la Province de Québec Durant l'Année* 1912. [Report on the mining operations in the Province of Quebec during the year 1912].—Bureau of Mines, Department of Colonization, Mines and Fisheries, Province of Quebec, Canada; 260 pp*.

——— *Report on Mining Operations in the Province of Quebec During the Year* 1912.—(See under Copper.)

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

———. *Spelter Production in the United States First Half* 1912. (Report of U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 23, 1913; p 344; 1300 w; 10c.

Ore Dressing, Metallurgy, Chemistry, Etc.

Brooks, G. S.—*Formation of Zinc Ferrite in Roasting Blende* (Abstract from Bull. Am. Inst. Mg. Engrs., May,1913).—Met. & Chem. Eng., July, 1913; p 418; 700 w; 35c.

Eilers, A.—*Bag-House at Omaha Plant of A. S. & R. Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 245; 3000 w*; 10c.

Hale, E. W.—*Copper Matte and Base Bullion from an Electric Spelter Furnace.*—M. & S. P., Dec. 20, 1913; p 974; 1500 w; 20c.

Heberlein, Ferdinand.—*An Excursion to North American Smelting Works.* (Address delivered before Gesellschaft Deutscher Metallhütten und Bergleute; printed in Metall und Erz and translated by Herbert Hass).—M. & S. P., Nov. 8, 1913; p 713; 7000 w; 20c.

Heberlein, Ferdinand.—*Eine Exkursion auf nordamerikanische-mexikanische Blei. Zink und Kupferhütten*] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 716; 5000 w*; 50c.

Heberlein, F.—*Lead, Zinc and Copper Smelting in America.* (A record of observations on current American metallurgical practice compared with European; translation in Metall und Erz).—E. & M. J., Nov. 8, 1913; p 871; 3500 w*; Nov. 15, 1913; p 909; 3500 w*; 50c.

Hebbard, James.—*Evolution of Minerals Separation Process on Central Mine, Australia.*—Trans. Aus. Inst. M. E., No. 10; 1913; 88 pp*; 75c.

Johnson, Woolsey McA.—*Byproducts in Electric Zinc Smelting.*—E. & M. J., Dec. 20, 1913; p 1157; 3000 w*; 25c.

Johnson, Woolsey McA.—*Zinc Smelting in the Electric Furnace.*—E. & M. J., Nov. 22, 1913; p 965; 2400 w*; 25c.

Johnson, Woolsey McA., and Sieger, George N.—*Electric Furnaces: Their Design, Characteristics and Commercial Application.*—Met. & Chem. Engg., Dec., 1913; p 863; 4000 w*; 35c.

Johnson, Woolsey McA.—*The Johnson Electric Zinc-Smelting Process.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1073; 3200 w; 10c.

Juretzka, Franz.—*Die Principien der Temperaturführung in modernen Zinkdestillieröfen.* [The principals of temperature control in modern zinc-distillation furnaces].—Metall & Erz, Sept. 22, 1913; p 767; 2500 w; 50c.

Juretzka, Franz.—*Erz- und Kohlesilos und Transport zu den Verbrauchsstellen, mit besonderer Berücksichtigung der Zinkhüttenverhältnisse.* [Ore and coal silos and transport to place of consumption, with special reference to zinc-smelting conditions].—Metall & Erz, Sept. 8, 1913; p 745; 1000 w*; 50c.

Kranafeldt, P.—*Electromagnetic Ore Concentration by the Ullrich Separator.*—Canadian Mg. Jnl., Nov. 15, 1913; p 703; 3600 w*; 35c.

Liebig, R. G. Max.—*Zink and Cadmium.* 598 pp. 30 marks (book).

Lyon, Dorsey A., and Keeney, R. M.—*The Electric Furnace in Western Metallurgy.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1063; 5000 w; 10c. M. & S. P., Nov. 1, 1913; p 686; 7000 w; 20c.

MacGregor, Frank S.—*Progress in Electrostatic Ore Dressing.* (Abstract of paper 24th annual meeting Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1071; 1900 w; 10c.

Marc, R.—*Uber den Einfluss von Kolloidzusätzen auf die Kathodischen und Anodischen Vorgänge bei der Elektrolyse von Metallsalzlösungen (Blei und Zink) I;* [Effect of Colloids on Electrolytic Deposition of Lead and Zinc].—Zeit. Elektrochemie, June 1, 1913; p 431; 15 pp*; 45c.

McCaffery, R. S.—*The Electric Smelting of Lead-Zinc Ores.* (Abstract of paper read at joint meeting of Western Sections A. I. M. E.).—Mg. & Eng. World, Nov. 29, 1913; p 967; 700 w; 10c.

Megraw, Herbert A.—*Ores Amenable to Cyanidation.*—E. & M. J., Oct. 4, 1913; 6000 w; 25c.

Merton, A. M.—*Specifications and Tests for Zinc Dust.*—Mg. & Eng. World, June 28, 1913; p 1227; 2400 w; 10c.

Merton, A. M.—*Zinc-Dust Precipitation of Gold and Silver.*—Mg. & Eng. World, Sept. 6, 1913; p 429; 2500 w; 10c.

Meuskens, Clemens.—*Die neuere Entwickelung der elektromagnetischen und elektrostatischen Erz-Aufbereitung.* [The recent development of electro-magnetic and electro-static ore preparation].—Technische Blätter, Sept. 20, 1913; p 357; 1100 w*; Sept. 27; p 365; 1500 w*; Oct. 4; p 375; 1500 w*; $1.05.

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metallurgy in 1912].—Glückauf, Oct. 11, 1913; p 1678; 7000 w; 50c.

Peterson, Peter E.—*Electric Furnace for Zinc Smelting.*—Mg. & Eng. World, Sept. 27, 1913; p 549; 2300 w*; 10c.

Peterson, Peter E.—*The Electric Furnace for Zinc Smelting.*—Mg. & Eng. World, Aug. 16, 1913; p 303; 1500 w; 10c.

Peterson, Peter E.—*The Electric Zinc Furnace.* (Paper read before Am. Electrochem. Soc.).—Chem. Engr., Sept., 1913; p 100; 7000 w*; 35c.

Pulsifer, H. B.—*Lead Refining Plant at South Chicago* [National].—Mg. & Eng. World, July 26, 1913; p 153; 2600 w*; 10c.

Pulsifer, H. B.—*Lead-Refining Plant at Omaha, Neb.*—Mg. & Eng. World, Sept. 13, 1913; p 457; 1900 w*; 10c.

Reid, F. W.—*Broken Hill Proprietary Works, South Australia.* (Abstract from Mg. & Engg. Rev.).—Mg. & Eng. World, Nov. 22, 1913; p 923; 3200 w; 10c.

Reid, F. W.—*Zinc Smelting in Australia.* [Description of the Pt. Pirie plant] (Abstract from Mg. & Eng. Rev.).—M. & S. P., Nov. 15, 1913; p 776; 1300 w; 20c.

Rhead, E. L., and Sexton, A. H.—*Assay-*

ing and Metallurgical Analysis (Second Edition).—(See under Gold.)

Rice, Claude T.—*Joplin Intermittent Settling Tank.*—E. & M. J., June 14, 1913; p 1198; 650 w*; 25c.

Stone, George C.—*Belgian Furnaces in Zinc Smelting.* (Paper read before N. Y. section Am. Inst. Mg. Engrs.).—M. & S. P., Dec. 13, 1913; p 931; 2000 w; 20c.

Wegelin, Gustav.—*Ueber die Verwendung von Tantalelektroden zur elektroanalytischen Bestimmung von Kupfer und Zink.* [On the use of tantalum electrodes in the electro-analytical determination of copper and zinc].—Chemiker-Ztg., Aug. 19, 1913; p 989; 800 w; 35c.

Wilfley, C. R.—*Electrostatic Separation of Barstow Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, A Preliminary Report.*—Technical Paper 41, U. S. Bureau of Mines; 48 pp*.

Wüst, F.—*Mitteilungen aus den Eisenhüttenmännischen Institut der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School, Aachen] Vol. 5.—Halle, 1913; 160 pp*; $5; (book).

——— *Die Berg und Hüttenwerksproduktion Oesterreichs im Jahre* 1912. [The mining and metallurgical production of Austria in 1912].—Montanistische Rundschau, Oct. 16, 1913; p 981; 2500 w; 35c.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

——— *Die elektromagnetische Aufbereitung mit besonderer Berücksichtigung des Erzscheiders Bauart Ullrich.* [Electromagnetic ore preparation with special reference to the Ullrich ore separator].—Montanist. Rundschau, Nov. 16, 1913; p 1095; 2000 w*; 35c.

———. *Die oberschlesische Bergwerks- und Hüttenindustrie im Jahre* 1912; [The Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

——— *Dry Concentration and Separation of Minerals.* (Describes the Plumb Pneumatic Jig).—Met. & Chem. Engg., Dec., 1913; p 722; 3000 w*; 35c.

——— *Electro-Magnetic Ore Concentration by the Ullrich Separators.*—Mg. Jnl., London, Oct. 25, 1913; p 1022; 2800 w*; 35c.

———. *Elektromagnetische Aufbereitung.* [Electro-magnetic preparation of ores].—Montanistische Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

———. *Evolution of the Mineral Separation Process.* (Abstract of paper read at A. I. M. E. conference at Broken Hill, N. S. W.).—Mg. & Engg. Rev., London, June, 1913; p 366; 3200 w*; 35c.

——— *Historical Note on Zinc Smelting.* (Footnote from Hoover's translation of Agricola, Book IX).—E. & M. J., Oct. 18, 1913; p 741; 1900 w; 25c.

———. *Magnetic Separation of Zinc and Iron, Campbell Process.*—E. & M. J., July 5, 1913; p 24; 400 w*; 25c.

——— *Procédé Bourgeot pour Minerais de Zinc et de Cuivre.* [Bourgeot process for treatment of ores of zinc and copper.]—L'Echo des Mines, Aug. 14, 1913; p 891; 1000 w; 35c.

——— *Processo Bourgeot per Minerali di Zinco e Rame.* [The Bourgeot process for ores of zinc and copper].—Rass. Min. Metallurgica & Chim., Sept. 1, 1913; p 87; 800 w; 35c.

——— *Result of Investigations of the Methods of Assaying Broken Hill Ores.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 195; 46 pp; 75c.

——— *Scandinavian Electric Zinc Smelting.*—E. & M. J., Nov. 29, 1913; p 1030; 600 w; 25c.

———. *Tailing and Ore Treatment at Broken Hill* (Abstract from annual report of the Zinc Corporation, Ltd.).—M. & S. P., July 19, 1913; p 104; 1200 w*; 20c.

——— *The Metallurgy of Zinc.* [Editorial].—Mg. & Eng. World, Dec. 13, 1913; p 1051; 1200 w; 10c.

——— *Ueber die Aufbereitung von Erzen durch Flotation.* [On the preparation of ores by flotation].—Montan-Ztg., Dec. 1, 1913; 800 w; 35c.

——— *Zinc Sulphite Solutions.* (From U. S. patent to H. Rees and H. L. Sulman for bisulphate process of zinc extraction).—E. & M. J., Nov. 29, 1913; p 1017; 750 w*; 25c.

Miscellaneous

Bennett, C. W.—*The Electrodeposition of Brass and Bronze.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 3000 w.

Bird, Frank A.—*Combined Method of Analysis for Constituents of Zinc Ores.*—M. & S. P., July 5, 1913; p 18; 2000 w; 20c.

Clerc, F. L.—*Condensation of Zinc Gas to Liquid, in the Presence of Inert Gas.*—Met. & Chem. Engg., Nov., 1913; p 637; 3000 w*; 35c.

Clerc, F. L.—*The Psychology of Zinc.*—M. & S. P., July 12, 1913; p 63; 1200 w; 20c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys].—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Prost, Eug., and Van de Casteele, A.—*Recherches Concernant l'Influence des Métaux Etrangers sur le Laminage du Zinc.* [Researches concerning the influence of foreign metals on the rolling of zinc].—Bull. Soc. Chimique Belgique, June, 1913; p 175; 5000 w; 75c.

Robin, Felix.—*Recherches sur le Développement des Grains des Métaux par Recuit Après Ecrouissage.* [Researches on the development of the grains of metals by alloying after hammering].—Revue de Metallurgie, June, 1913; p 722; 6000 w*; $1.15.

Rosenhain and Archbutt.—*Les Alliages d'Aluminium et de Zinc.* [The alloys of aluminum and zinc] (Translation in abstract of the Tenth Report of the Committee on Alloys).—Revue de Métallurgie, July, 1913; p 822; 8000 w*; $1.15.

Uebbing, Paul.—*Versuche zur Verarbeitung zinkhaltiger Kieselbrände.* [Experiments on the utilization of zinc-carrying pyrites cinder].—Metall & Erz, July 22, 1913; p 607; 3000 w*; 50c.

Whitebeck, Ray Hughes.—*The Geography and Industries of Wisconsin.*—Bull. No. 26, Educational Series No. 3, Wis. Geol. & Nat. Hist. Survey; 94 pp*.

———. *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co., A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

———. *Method of Selling Lead and Zinc Ores.* (Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, July 12, 1913; p 62; 400 w; 10c.

———. *Mineral Imports of the United Kingdom.*—Mg. Jnl., London, June 21, 1913; p 591; 2300 w; 35c.

———. *Preise unedler Metalle im ersten Halbjahr* 1913; [Prices of base metals in the first half of 1913].—Bergwerks-Ztg., July 17, 1913; p 1; 800 w; 35c.

———. *Préparation Mécanique des Minerais de Zinc et de Plomb.* [Mechanical preparation of zinc and lead].—L'Echo des Mines, May 26, 1913; p 599; 400 w; 35c.

———. *Tariff Discussions.*—E. & M. J., Aug. 9, 1913; p 246; 400 w; 25c.

———. *The Tariff on Zinc and Lead Ore,* [Editorial].—E. & M. J., Aug. 9, 1913; p 271; 700 w; 25c.

——— *Western Sections A. I. M. E. Joint Sessions at Wallace, Idaho.*—Mg. & Eng. World, Nov. 29, 1913; p 967; 5000 w; 10c.

CADMIUM

Liebig, R. G. Max.—*Zink and Cadmium.* 598 pp. 30 marks (book).

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metallurgy in 1912].—Glückauf, Oct. 11, 1913; p 1678; 7000 w; 50c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Siebenthal, C. E.—*Zinc and Cadmium in* 1912—*General Report.*—Adv. chap. Min. Res. U. S., U. S. Geol. Survey; 53 pp.

CHAPTER IV.

IRON AND STEEL.

Ores and Mining (Special and General)

Abell, O. J.—*Increased Output of Merchant Lake Ore.*—Iron Age, Sept. 4, 1913; p 514; 2000 w; 30c.

Barneveld, Charles E. van.—*Iron Mining in Minnesota.*—Bull. 1, Minn. School of Mines Exp. Station; 215 pp*.

Brandt, L.—*Ueber die Jodometrische Bestimmung des Arsens in Eisen und Eisenerzen nach Fällung mit Unterphosphoriger Säure.* [On the iodometric determination of arsenic in iron and iron ores after precipitation with hypophosphorus acid].—Chemiker-Ztg., Nov. 25, 1913; p 1445; 2500 w; Dec. 2; p 1471; 1000 w; 70c

Brunton, Stopford.—*Some Notes on Titaniferous Magnetite.*—Economic Geol., Oct., 1913; p 670; 14 pp*; 65c.

Burchard, Ernest F.—*Iron Mining in the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 591; 700 w; 10c.

Burchard, Ernest F.—*The Production of Iron Ore, Pig Iron and Steel in* 1912.—Advance chapter from Mineral Resources of U. S.; 58 pp*.

Burchard, Ernest F.—*The Production of Iron Ore, Pig Iron and Steel in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 58 pp.

Burchard, Ernest F.—*The Red Iron Ores of East Tennessee.*—Bull. 16, State of Tenn. Geol. Survey; 173 pp*.

Cayeux, M.—*De la Genèse des Minerais de Fer Sédimentaires.* [On the genesis of the sedimentary iron ores] (Abstract from l'Académie des Sciences).—L'Echo des Mines, May 22; p 588; 850 w; May 29; p 620; 600 w; 70c.

Cirkel, Fritz.—*Rapport sur les Dépots de Fer Chromé des Cantons de l'Est de la Province de Québec.* [Report on the deposits of chromite of the eastern cantons of the province of Quebec].—Canada Dep. of Mines, Mines Branch; 145 pp*.

Coleman, A. P.—*The Moose Mountain Iron Range, Canada.* (Extracts from Guide Book No. 7, Geol. Surv. of Canada).—Canadian Mg. Jnl., Sept. 15, 1913; p 573; 1200 w; 35c.

Crawford, R. D.—*Geology and Ore Deposits of the Monarch and Tomichi Districts, Colorado.*—Bull. 4, Colo. Geol. Surv.; 317 pp*.

Cremer, Oberbergrat.—*Bericht über eine Reise in der Chinesischen Provinz Szetschuan;* [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Donovan, Percy W.—*Churn-Drill Angle Holes on the Cuyuna Range, Minnesota.*—E. & M. J., Dec. 13, 1913; p 1117; 1200 w*; 25c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912.—Advance chapter from Mineral Resources of U. S.; 9 pp.

Eckel, Edwin C.—*Brown Iron Ores as Cavity Fillings.*—E. & M. J., July 5, 1913; p 1; 1400 w*; 25c.

Edwards, Geo. E.—*Development of the Vermilion Iron Range.*—Mg. & Eng. World, Oct. 4, 1913; p 595; 1800 w*; 10c.

Edwards, Geo. E.—*Rapid Development of the Cuyuna Range.*—Mg. & Eng. World, Aug. 23, 1913; 2800 w; 10c.

Edwards, Geo. E.—*Season's Developments on the Lake Iron Ranges.*—Mg. & Eng. World, Nov. 8, 1913; p 825; 4000 w*; 10c.

Emmons, William Harvey.—*The Enrichment of Sulphide Ores.*—Bull. 529, U. S. Geol. Surv.; 260 pp.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Fiegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand, 142 pp*.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden.* [Mining in the grand duchy of Baden, Germany].—Glückauf, June 21, 1913; p 974; 4800 w*; 50c.

Hennen, Ray V., and Reger, David B.—*Detailed Geological Surveys of Marion, Monongahela and Taylor Counties, West Virginia.*—Report, W. Va. Geol. Survey; 844 pp* and maps; $2.50.

Herbst, Prof.—*Die Gefäss-Schachtförderung (Skipförderung) und der deutsche Bergbau.* [Skip hoisting and German mining].—Glückauf, Aug. 2, 1913; p 1209; 5000 w*; Aug. 9; p 1245; 6000 w*; $1.

Higgins, Edwin.—*Safety in the Mines of the Iron Ranges.* (Abstract of paper read before Lake Sup. Mg. Inst.).—Mg. & Eng. World, Sept. 13, 1913; p 461; 3500 w; 10c. Ir. Tr. Rev., Aug. 28, 1913; p 390; 3000 w; 25c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June* 30, 1912.—U. S. Dep. of the Interior; 88 pp.

Hubbard, Geo. D.—*Rare Minerals at Broken Hill, Rhodesia.*—E. & M. J., June 28, 1913; p 1297; 1800 w; 25c.

Iron Trade Review.—*The* 1913 *Lake Superior Iron Ore Annual.*—Cleveland, 1913; 71 pp*; $2; (book).

Kellogg, L. O.—*A Methuselah Among American Mines.*—E. & M. J., Sept. 6, 1913; p 431; 1000 w*; 25c.

Kellogg, L. O.—*The Magnetite Mines Near Port Henry, N. Y.*—E. & M. J., Nov. 8, 1913; p 863; 4000 w*; 25c.

Kellogg, L. O.—*Notes on Lake Champlain Iron Mines.*—E. & M. J., Dec. 6, 1913; p 1065; 3100 w; 25c.

Kellogg, L. O.—*Notes on the Cuyuna Iron Range, Minnesota.*—E. & M. J., Dec. 27, 1913; p 1200; 4000 w*; 25c.

King, Rufus.—*American Mining Interests in Central America.*—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

Lewis, Henry William.—*Iron Smelting in Maryland in the Eighteenth Century.*—Ir. Tr. Rev., Sept. 11, 1913; p 459; 2000 w*; 25c.

Linton, Robert.—*Texas Iron Ore Deposits.*—E. & M. J., Dec. 20, 1913; 1153; 2800 w*; 25c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the Province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

Martin, H. E., and Kaiser, W. J.—*Mining Machines on the Mesabi Range, Minnesota.* (Trans. L. S. Mg. Inst.; abstract).—Mg. & Eng. World, Oct. 4, 1913; p 602; 1300 w; 10c. Iron Trade Rev., Sept. 25, 1913; p 537; 1500 w*; 25c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McDonald, P. B.—*Michigan Mining Lawsuits.*—E. & M. J., June 28, 1913; p 1298; 1000 w; 25c.

McDonald, P. B.—*Applied Geology, Michigan Iron Ranges.*—E. & M. J., Aug. 2, 1913; p 208; 2000 w*; 25c.

McDonald, P. B.—*Developments on Michigan Iron Ranges.*—E. & M. J., Aug. 23, 1913; p 335; 4500 w*; 25c.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 p.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

Nishizwa, Kimio.—*The Tayeh Iron Mine, China.*—Jnl. Royal Soc. Arts, Oct. 10, 1913; p 1018; 5 pp; 35c. Abstract in Mg. Jnl., London, Oct. 18, 1913; p 1004; 1500 w; 35c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Parker, E. W.—*Ohio's Large Mineral Production in* 1912. (Abstract from Min. Res. of U. S., U. S. Geol. Survey).—Mg. & Eng. World, Nov. 29, 1913; p 979; 350 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. of U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Purdue, A. H.—*The Minerals of Tennessee; Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Ressel, Anton.—*Ueber den ehemaligen Eisenbergbau in Raspenau.* [On the early iron mining in Raspenau] (Address before Verein für Heimatkunde).—Montan-Ztg., July 15, 1913; p 264; 3000 w; 35c.

Reuter, Franz.—*Die neuste Entwickelung der Eisenerversorgung der oberschlesischen Hochofenindustrie.* [The newest development of the iron-ore supply of the Upper Silesian blast-furnace industry].—Glückauf, Nov. 15, 1913; p 1892; 4800 w; Nov. 22; p 1925; 8000 w*; $1.

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Rice, A. S.—*Mining Magnetite by Steam Shovel in Sweden.*—Iron Tr. Rev., Nov. 27, 1913; p 953; 5000 w*; 25c.

Schmidt, Albert.—*Die nordbayrischen Eisen- und Manganvorkommen.* [The north Bavarian occurrence of iron and manganese].—Berg & Hüttenmännische Rundschau, Sept. 5, 1913; p 293; 5000 w; 35c.

Schoeller, W. R.—*Ore Deposits of Hu-nan and Hu-peh, China.*—Jnl. Soc. Chem. Ind., May 31, 1913; p 517; 3000 w; 65c.

Singewald, Jos. T., Jr.—*The Titaniferous Iron Ores in the United States: Their Composition and Economic Value.*—Bull. 64, U. S. Bureau of Mines. 154 pp.

Stutzer, O.—*Ueberblick über die nutzbaren Lagerstätten Katangas.* [A survey of the useful deposits of Katanga, Belgian Congo].—Metall & Erz, Aug. 30, 1913; p 679; 3300 w*; 50c.

Tarugi, N.—*Utilization of Highly Silliceous Iron and Manganese Minerals* (From Chemiker-Ztg.).—E. & M. J., July 12, 1913; p 64; 250 w; 25c.

Thom, W. T.—*Record Mineral Production of the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Vattier, Carlos.—*Iron Ore Deposits of Chile.* (Translated from Bol. de la Soc. Nac. de Minera).—M. & S. P., Dec. 6, 1913; p 893; 4500 w*; 20c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14, 1913; p 898; 3500 w*; 20c.

Watson, Thomas L.—*Mineral Production of Virginia in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 928; 600 w; 10c.

Whitebeck, Ray Hughes.—*The Geography and Industries of Wisconsin.*—Bull. No. 26, Educational Series No. 3, Wis. Geol. & Nat. Hist. Survey; 94 pp*.

Wolf, E. J.—*Quick and Cheap Shallow Prospecting.* [Blue Ridge iron and manganese district, Virginia].—E. & M. J., June 14, 1913; p 1193; 500 w: 25c.

Woodbridge, Dwight E.—*Iron Mines in the South and East.* (Paper read before Lake Superior Mg. Inst.).—Mg. & Eng. World, Aug. 30, 1913; p 383; 1800 w; 10c. Also in Ir. Tr. Rev., Aug. 28, 1913; p 377; 1800 w; 25c.

——— *Analyzed Iron and Manganese Ores—Methods of Analysis.*—Circular No. 26, Bureau of Standards, U. S. Dep. of Commerce; 20 pp.

——— *Austrian Mining in 1912.*—Mg. Jnl., London, Oct. 4, 1913; p 935; 2300 w; 35c.

———. *Bergbau und Eisenindustrie Schwedens im Jahre,* 1912. [Mining and iron industry of Sweden in 1912].—Glückauf, Oct. 25, 1913; p 1772; 4500 w; 50c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *Coal and Iron in Manchuria.*—E. & M. J., Dec. 27, 1913; p 1204; 400 w; 25c.

———. *Cost of Brazilian Iron Ores.*—E. & M. J., June 14, 1913; p 1208; 1100 w; 25c.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

——— *Decreased Values of Michigan Iron Mines.*—Mg. & Eng. World, Nov. 22, 1913; p 916; 550 w; 10c.

———. *Der Bergbau in China, Konsulararbezirk Shanghai im Jahre* 1911; [Mining in China, Shanghai consular district, in 1911] (First part).—Montan.Ztg., June 15, 1913; p 225; 3500 w; 35c.

———. *Der Bergbau in China, Konsulararbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Der Bergbau Japans.* [Japan's mining].—Montan & Metallindustrie-Ztg., Sept. 21, 1913; p 4; 600 w; 35c.

——— *Die Bergwerksindustrie und Bergvervaltung Preussens im Jahre* 1912. [Prussia's mining industry and mine administration in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 403; 20,000 w; $1.50.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die Bergwerksindustrie in Frankreich und Algier in den Jahren* 1910 *und* 1911. [The mining industry in France and Algeria in 1910 and 1911.] (From report of Minister of Public Works, France).—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3; 1913; p 382; 4500 w; $1.50.

——— *Die deutsche Eisenindustrie im internationalen Lichte.* [The German iron industry in an international light].—Eisen-Ztg., Oct. 11, 1913; p 804; 2000 w; 35c.

——— *Die Eisenindustrie Italiens.* [Italy's iron industry].—Berg & Hüttenmännische Rundschau, Sept. 5, 1913; p 298; 2800 w; 35c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

——— *Die Mineindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

——— *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15, 1913; p 346; 800 w; 35c.

———. *Die oberschlesische Bergwerks- und Hüttenindustrie im Jahre* 1912; [The Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

——— *Die Versorgung Deutschlands mit Eisenerzen.* [Providing Germany with iron ores].—Centralblatt Hütten & Walzwerke, Oct. 5, 1913; p 549; 2000 w; 35c.

——— *Drilling Mesabi Gopher Holes.*—E. & M. J., Dec. 20, 1913; p 1169; 700 w*; 25c.

——— *Gewinnung der Bergwerke des Preussischen Staates im Jahre,* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *Ginpole of Ten-Inch Pipe.*—E. & M. J., Dec. 13, 1913; p 1119; 400 w*; 25c.

———. *Iron Mining in Minnesota.* (Abstract from Bull. 1, Minn. Sch. Mines Exp. Sta.).—E. & M. J., June 28, 1913; p 1295; 1650 w; 25c.

———. *Iron-Ore Mining in Algeria.*—Iron & Coal Tr. Rev., July 18, 1913; p 88; 1500 w*; 35c.

——— *Italian Mineral and Metallurgical Industries in* 1912. (Abstract from Revista del Servizio Minerario).—Iron & Coal Trade Rev., Dec. 5, 1913; p 875; 1500 w; 35c.

——— *Iron and Steel Production of Italy.*—E. & M. J., Dec. 27. 1913; p 1211; 500 w; 25c.

———. *La Production des Mines de Fer de Normandie en* 1912. [The production of the iron mines of Normandie in 1912] (From L'Echo des Mines).—Bull. Soc. Amicale Douai, May 25, 1913; p 312; 450 w; 35c.

——— *L'industria del ferro in Italia.* [The iron industry in Italy] (Translated from Nachtrichten für Handel & Industrie).—Metallurgia Ital., Sept. 30, 1913; p 640; 1800 w; 35c.

——— *L'Industrie Minérale en France Pendant L'Année* 1911. [The mineral industry of France during 1911] (Extract from Statistics of the Mineral Industry, France).—Bull. Soc. Amicale Douai, July 25, 1913; p 496; 1600 w; 35c. (Last part).

———. *L'Industrie Minerale de L'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 110 w; 35c.

——— *Mesabi Range to Have Banner Output.* (Editorial).—Mg. & Eng. World, Sept. 13, 1913; p 456; 400 w; 10c.

——— *Michigan Mines and Industrial Accidents.* [Editorial].—Mg. & Eng. World, Oct. 25, 1913; p 729; 300 w; 10c.

——— *Michigan Shows Increased Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1147; 650 w; 10c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *Mining in Alegria.*—M. & S. P., Dec. 6, 1913; p 891; 2000 w; 20c.

——— *Mining in Sweden in* 1912.—(U. S. Consular report).—Mg. & Eng. World, Dec. 27, 1913; p 1152; 300 w; 10c.

——— *Mining Methods on the Mesabi Range.* (Trans. L. S. Mg. Inst.; abstract).—Ir. Tr. Rev., Sept. 11, 1913; p 450; 5000 w*; 25c.

——— *Mining Methods on the Mesabi Range.* [Paper prepared for L. S. Mg. Inst. by Willard Bayliss, E. D. McNeill and J. S. Lutes].—Abstract in Mg. & Eng. World, Sept. 27, 1913; p 551; 5000 w*; 10c; E. & M. J., Sept. 27, 1913; p 578; 2700 w*; 25c.

———. *New Steam Shovel for Cleaning Up on the Mesabi Iron Range.*—E. & M. J., Dec. 20, 1913; p 1159; 900 w*; 25c.

———. *No Labor Troubles on the Iron*

Range (Editorial).—Mg. & Eng. World, Aug. 9, 1913; p 240; 300 w; 10c.

——— *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines report).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

———. *Pig-Iron Production in* 1913.—E. & M. J., Aug. 9, 1913; p 274; 600 w; 25c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, 1st Statistical Number, 1913; p 1; 40 pp; $1.50.

———. *Prussian Mining in* 1912.—Mg. Jnl., London, Dec. 6, 1913; p 1153; 2200 w; 35c.

——— *Rapport des Opérations Minières dans la Province de Québec Durant l'Année* 1912. [Report on the mining operations in the Province of Quebec during the year 1912].—Bureau of Mines, Department of Colonization, Mines and Fisheries, Province of Quebec, Canada; 260 pp*.

——— *Report on Mining Operations in the Province of Quebec During the Year 1912.*—Dep. of Colonization, Mines & Fisheries, Quebec, Canada; 241 pp*.

——— *Tax Valuation of Iron in Stock.* [Editorial].—Mg. & Eng. World, Oct. 11, 1913; p 633; 600 w; 10c.

———. *The Best of Geologists Make Mistakes.* [Concerning a large body of siderite found in Mississippi].—Mg. & Eng. World, June 14, 1913; p 1139; 1000 w; 10c.

———. *The Half Year's* (1913) *Pig Iron Production.* (From Am. Iron & Steel Inst.).—Mg. & Eng. World, Aug. 16, 1913; p 304; 350 w; 10c.

———. *Valuation of Iron Mines for Taxation.* [Discussion of the Finlay paper before Am. Inst. Mg. Engrs.].—Mg. & Eng World, June 14, 1913; p 1143; 5000 w; 10c.

——— *Zur Gesechäftslage in der französischen Eisenindustrie.* [The business situation in the French iron industry].—Bergwerks-Ztg., Sept. 13, 1913; p 1; 1300 w; 35c.

——— *Zur Kenntnis der Berg- und Hüttenindustrie in China.* [Concerning the mining and metallurgical industries in China].—Berg & Hüttenmännische Rundschau, Sept. 20, 1913; p 309; 2800 w; 35c.

Ore Resources

Arlt, H.—*Die Mineralschätze Tunisiens.* [The mineral wealth of Tunis].—Glückauf, July 19, 1913; p 1125; 4000 w*; 50c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Chalmers, George.—*Iron-Ore Resources of Brazil.*—E. & M. J., July 26, 1913; p 155; 300 w; 25c.

Diepenhorst, Dr.—*Die Abhängigkeit der deutschen Eisenindustrie von ausländischen Erzen.* [The dependence of the German iron industry on foreign ores].—Kali, Erz & Kohle, Aug. 5, 1913; p 774; 2500 w; 35c.

Heym, Ingenieur.—*Amerikanische Eisenerz-Reserven.* [American iron-ore reserves].—Kali, Erz & Kohle, July 5, 1913; p 663; 2700 w; July 15; p 700; 3000 w; July 22, 1913; p 737; 2500 w; Aug. 5; 2000 w; $1.40.

Vattier, Charles.—*Iron Ore Resources of Chile.* (Paper read before Iron & Steel Inst).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 346; 6500 w; 35c.

Whitaker, DeBerniere.—*Cuban Iron-Ore Reserves.*—Engg. Mag., Nov., 1913; p 253; 2 pp; 35c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Woodbridge, Dwight E.—*Iron Mines in the South and East.* (Paper read before Lake Superior Mg. Inst.).—Mg. & Eng. World, Aug. 30, 1913; p 383; 1800 w; 10c. Also in Ir. Tr. Rev., Aug. 28, 1913; p 377; 1800 w; 25c.

———. *Map of West Virginia, Showing Coal, Oil, Gas, Iron Ore, and Limestone Areas.*—W. Va. Geol. Surv.

Beneficiation of Ores (and Flue Dust)

Clark, Eugene B.—*How Blast Furnace Flue Dust Can Be Utilized.* (Paper read before Am. Iron & Steel Inst.).—Iron Trade Rev., Dec. 11, 1913; p 1050; 4500 w*; 25c.

Crowell, Benedict.—*Concentrating at the Madrid Mine, Virginia, Minn.* (Trans. L. S. Mg. Inst.).—Mg. & Eng. World, Sept. 20, 1913; p 518; 1000 w; 10c.

Kellogg, L. O.—*An Iron Concentrator of Unusual Design.*—E. & M. J., Aug. 9, 1913; p 243; 1400 w*; 25c.

Kranafeldt, P.—*Electromagnetic Ore Concentration by the Ullrich Separator.*—Canadian Mg. Jnl., Nov. 15, 1913; p 703; 3600 w*; 35c.

Meuskens, Clemens.—*Die neuere Entwickelung der elektromagnetischen und elektrostatischen Erz-Aufbereitung.* [The recent development of electro-magnetic and electrostatic ore preparation].—Technische Blätter, Sept. 7, 1913; p 341; 3200 w*; Sept. 20, 1913; p 357; 1100 w*; Sept. 27; p 365; 1500 w*; Oct. 4; p 375; 1500 w*; $1.05.

Nason, S. L.—*Witherbee-Sherman No. 3 Magnetic Mill* (New York).—E. & M. J., Nov. 22, 1913; p 959; 1900 w*; 25c.

Portilla, P.—*Consideraciones acerca del Tratamiento de los Minerales Ferriferos de Asturias.* [Considerations on the treatment of ferriferous ores of Asturias, Spain].—Ingeniería, May 30, 1913; p 173; 3000 w; 35c. (last part).

Sebenius, John Uno.—*The Coleraine Iron-Ore Washing Plant, Minnesota.* (Abstract of paper read before L. S. Mg. Inst.).—Iron Age, Aug. 28, 1913; p 453; 5000 w*; 30c.

Woodbridge, Dwight E.—*Mine-Accident Prevention at Lake Superior Iron Mines.*—Tech. Paper 30, U. S. Bureau of Mines; 38 pp*.

——— *Aglomeracion y Enriquecimiento de las Menas de Hierro y de los Hollines.* [Agglomeration and enrichment of iron ores and of smokes].—Revista Minera, Sept. 16, 1913; p. 445; 1500 w*; Sept. 24; p 461; 2200 w; 70c.

——— *Concentration of Low-Grade Iron Ores of Tennessee.* (Bull. 16, State Geologist's Report of Tennessee).—Mg. & Eng. World, Dec. 27, 1913; p 1157; 800 w; 10c.

——— *Die elektromagnetische Aufbereitung mit besonderer Berücksichtigung des Erzscheiders Bauart Ullrichs.* [Electromagnetic ore preparations with special reference to the Ullrich ore separator].—Montanist. Rundschau, Nov. 16, 1913; p 1095; 2000 w*; 35c. (Continued.)

——— *Dry Concentration and Separation of Minerals.* (Describes the Plumb Pneumatic Jig).—Met. & Chem. Engg., Dec., 1913; p 722; 3000 w*; 35c.

——— *Electro-Magnetic Ore Concentration by the Ullrich Separators.*—Mg. Jnl., London, Oct. 25, 1913; p 1022; 2800 w*; 35c.

———. *Elektromagnetische Aufbereitung.* [Electro-magnetic preparation of ores].—Montanist. Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

Handling and Transporting Ores

Abels, Bergassessor. — *Seilförderanlagen im Minettebezirk.* [Rope haulage in the oölitic iron ore district, Germany].—Glückauf, Nov. 1, 1913; p 1804; 5000 w*; 50c.

Barneveld, Charles E. van.—*Iron Mining in Minnesota.*—Bull. 1, Min. School of Mines Exp. Station; 215 pp*.

Fawcett, Waldron.—*Storage of Iron Ore.*—Cassiers Engg. Mthly., Sept., 1913; p 155; 3 pp*; 25c.

Stratton, J. H.—*The Development of Ore Unloading on the Great Lakes.*—Jnl. Cleveland Engg. Soc., July, 1913; p 3; 25 pp*; 50c.

——— *Eisenerzvorräte der Welt.* [Iron-ore reserves of the world].—Montan. & Metallindustrie-Ztg., Sept. 7, 1913; p 3; 500 w; 35c.

———. *Trainage Mécanique a Cable, Système Heckel, Installè a la Mine de Minerai de Fer d'Auboué-Moineville.* [The Heckel system of rope haulage installed at the Auboué-Moineville iron ore mine, France].—L'Echo des Mines, May 26, 1913; p 602; 1700 w*; 35c.

Blast Furnaces and Accessories (Electric Furnaces for Pig Iron)

Baar, Armand.—*Reinforced Pile Foundations for Blast Furnaces.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 337; 1500 w*; 35c.

Crawford, John, Jr.—*Electric Smelting as Conducted at Heroult, California.* (Abstract of address delivered before Mining Congress of Northern California and Southern Oregon).—M. & S. P., June 28, 1913; p 897; 4500 w; 20c.

Crawford, John.—*Electric Smelting of Iron Ore in California.* (Abstract from Met. & Chem. Eng.).—Ir. Age, July 17, 1913; p 124; 2500 w*; 30c.

Crawford, John.—*Progress of Electric Smelting at Heroult, California.*—Met. & Chem. Eng., July, 1913; p 383; 4800 w*; 35c.

Donath, Ed. — *Ueber Hochofendurchbrüche.* [On blast-furnace breakthroughs].—Montanist. Rundschau, Dec. 16, 1913; p 1214; 3000 w*; 35c.

Donath, Ed., and Lissner, A.—*Ueber Hochofendurdhbr che.* [On blast-furnace break-throughs].—Montanistische Rundschau, Oct. 1, 1913; p 929; 5000 w; Nov. 1, 1913; p 1033; 2000 w*; Nov. 16, 1913; p 1090; 2800 w*; Dec. 1; p 1157; 2300 w*; $1.40.

Forbes, W. A.—*The Cleaning of Blast-Furnace Gas.* (Paper read before Am. Inst. Mg. Engrs.).—Ir. & C. Trades Rev., Nov. 14, 1913; p 759; 1900 w*; 35c.

Freyn, Heinrich J.—*The Gas Engine in Modern Blast-Furnace and Steel Plants.* (Abstract of paper read before Am. Ir. & St. Inst.).—I. & C. Tr. Rev., June 27, 1913; p 1047; 4500 w; 35c.

Hanson, H. J.—*Smelting Iron Electrically with Coke as Fuel.* [Norway].—Iron Tr. Rev., Dec. 4, 1913; p 1003; 2500 w*; 25c.

Houbaer, E.—*Uses of Blast Furnace and Coke-Oven Gas.* (Paper read at Brussels meeting Iron and Steel Inst.; abstract).—Iron Age, Sept. 18, 1913; p 608; 3700 w; 30c.

Johnson, J. E., Jr.—*The Iron Blast Furnace and the Characteristics of Its Fuels.*—Met. & Chem. Engg., Dec., 1913; p 687; 10,000 w; 35c.

Kellogg, L. O.—*Experiment in Smelting Titaniferous Magnetite.*—E. & M. J., Sept. 27, 1913; p 604; 700 w; 25c.

Louvrier, Francis.—*A New Type of Electrical Furnace for the Reduction of Ores.*—Met. & Chem. Engg., Dec., 1913; p 710; 4300 w*; 35c.

Lyon, Dorsey A., and Keeney, R. M.—*The Electric Furnace in Western Metallurgy.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1063; 5000 w; 10c. M. & S. P., Nov. 1, 1913; p 686; 7000 w; 20c.

Metzler, R.—*Die Gasreinigung auf dem Hochofenwerk Servola;* [Purifying Blast Furnace Gas at Servola (Austria)].—Montanistische Rundschau, June 1, 1913; p 531; 500 w* (continued); 35c.

Neumann, B.—*Forschritte der elektrischen Roheisenerzeugung;* [Progress in the electric production of pig iron].—Montan-Ztg., June 1, 1913; p 207; 1000 w; 35c.

Nicou, P.—*Du Haut-Fourneau Électrique.* [On the electric blast furnace].—L'Echo des Mines, June 2, 1913; p 636; 1500 w; 35c.

Nicou, P.—*Les Hauts-Fourneaux Électriques de Trollhattän et Hagfors, Suède.* [The electric blast furnaces at Trollhattän and Hagfors, Sweden].—Revue de Metalurgie, June, 1913; p 790; 100 w*; $1.15.

Nicou, P. — *Haut Fourneau Électrique Hans Bie Lorentzen.* [The Hans Bie Lorentzen electric blast furnace] (From Annales des Mines).—L'Echo des Mines, July 15, 1913; p 316; 800 w*; Aug. 14, 1913; p 892; 1100 w*; 70c.

Orten-Boving, Jens.—*Electric Iron Smelting.*—Canadian Engr., Dec. 18, 1913; p 877; 3800 w; 35c.

Pazos y Sacio, Vincente.—*Fundición en Hornos de Manga á Grandes Alturas.* [Smelting in blast furnaces at high altitudes].—Inf. y Mem. Boletin Soc. Ing. Peru, Aug., 1913; p 381; 6000 w; 75c.

Schöneweg, H.—*Sprengungen bei Hochofenstörungen.* [Blasting in blast-furnace disturbances]. — Zts. Schiess & Sprengstoffw., Dec. 1, 1913; p 445; 2200 w*; 35c.

Sweetser, R. H.—*Blowing-In a Blast Furnace.* (Paper presented at Cleveland meeting Am. Inst. Mg. Engrs.; abstract).—Ir. Tr. Rev., July 24, 1913; p 169; 3000 w*; 35c.

Trasenster, Gustave.—*On the Use of Oxygen in Blast Furnace Practice.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 339; 1300 w; 35c.

Tupper, C. A.—*Developments in Lining Blast Furnaces.*—Ir. Tr. Rev., Sept. 4, 1913; p 411; 3500 w*; 25c.

Wagner, Alf.—*Ueber Hochofen-Gichtgase, deren Verwendung und Reinigung.* [On blast-furnace waste gases, their utilization and purification].—Bergbau, Sept. 18, 1913; p 625; 1200 w; 35c.

West, Arthur.—*Gas-Driven Blowers at the Bethlehem Steel Co.* (Paper read before

Am. Iron & Steel Inst.).—Ir. Tr. Rev., June 19, 1913; p 1400; 4500 w*; 25c.

——— *Blast Furnaces Planned for New York District.*—Iron Tr. Rev., Oct. 16, 1913; p 683; 2000 w*; 25c.

——— *Concrete Piles for Strengthening Foundations of Blast Furnaces.*—Iron Tr. Rev., Oct. 16, 1913; p 681; 900 w*; 25c.

——— *Electric Iron Smelting at Hardanger.*—Mg. Jnl., London, Sept. 6, 1913; p 363; 2800 w; Sept. 13, 1913; p 385; 2700 w; 70c.

———. *Electro-Metallurgy in Norway* (From Jnl. Four Electriq).—E. & M. J., July 12, 1913; p 64; 300 w; 25c.

——— *Extensive Experiments with Titaniferous Ores.*—Iron Trade Rev., Oct. 30, 1913; p 797; 2000 w; 25c.

——— *Foundry Pig Iron Smelted in Electric Furnaces.*—Ir. Tr. Rev., Sept. 18, 1913; p 493; 4500 w*; 25c.

——— *L'Alto Forno Elettrico.* [The electric blast furnace].—Rass. Min. Metallurgica & Chim., Sept. 1, 1913; p 81; 2000 w; 35c

———. *Les Hauts Fourneaux Electriques.* [Electric blast furnaces].—Revue d'Electrochemie et d'Electrometallurgie, May, 1913; p 117; 2400 w; 75c.

——— *The Cleaning of Blast-Furnace Gas.* [Discussion of paper read at New York meeting].—Trans Am. Inst. Mg. Engrs, Bull. 84, Dec., 1913; p 2953; 84 pp*; 35c.

——— *The New Blast Furnace at Port Colborne, Ont.*—Iron Age, Sept. 25, 1913; p 718; 1500 w*; 30c.

——— *The Titaniferous Iron-Ore Myth.* [Editorial].—E. & M. J., Oct. 11, 1913; p 705; 1300 w; 25c.

——— *The Use of Nodulized Ore in the Blast Furnace.* [Discussion of paper read at New York meeting].—Trans. Am. Inst. Mg., Engrs., Bull. 84, Dec. 1913; p 2864; 6 pp; 35c.

Steel Furnaces and Ingots

Carr, W. M.—*Some Observations on Miniature or Detachable Open-Hearth Furnaces.*—Bull., Am. Foundrymen's Assn.; p 75; 16 pp*; 35c.

Croft, Henry W.—*Refractories in the Iron and Steel Industry.* (Paper presented at Chicago meeting Am. Iron & Steel Inst.).—Iron Trade Rev., Dec. 25, 1913; p 1138; 3500 w; 25c.

Croft, Harry W.—*Use and Development of Refractories in the Iron and Steel Industry.* (Paper presented before Am. Iron & Steel Inst.).—Chem. Engr., Nov., 1913; p 206; 2600 w; 35c.

Demeter, Dr. Ing.—*Ein neues Stahlzementierverfahren mit Gasen.* [A new steel-cementation process with gases].—Centralblatt Hütten & Walzwerke, Nov. 15, 1913; p 631; 1200 w*; 35c.

Dichmann, Carl.—*The Basic Openhearth Steel Process.* (Translated and edited by Alleyne Reynolds). 334 pp. $3.50 (book).

Frick, Otto.—*The Electric Refining of Steel.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; 22,000 w*; 35c.

Hall, John Howe.—*The Life of Crucible Steel Furnaces.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2379; 3 pp; 35c.

Harden, John.—*Induction-Furnace Notes.*—Met. & Chem. Engr., Oct., 1913; p 559; 6500 w; 35c.

Harden, John.—*The Induction Furnace for Crucible Steel Making.*—Iron & Coal Tr. Rev., Oct. 3, 1913; p 525; 4500; 35c.

Harden, John.—*Induction-Furnace Notes.*—Met. & Chem. Engr., Oct., 1913; p 559; 6500 w; 35c.

Harden, John.—*The Induction Furnace for Crucible Steel Making.*—Iron & Coal Tr. Rev., Oct. 3, 1913; p 525; 4500; 35c.

Heym, Ingenieur.—*Regenieröfen in der Schmelzofenpraxis;* [Regenerative furnaces in melting-furnace practice].—Kali, Erz & Kohle, May 25, 1913; p 519; 1500 w; 35c.

Hiorth, Albert.—*The Induction Furnace and Its Use in the Manufacture of Steel.*—Bull., Am. Foundrymen's Assn.; p 157; 20 pp*; 35c.

Keeney, Robert M.—*Operating Characteristics and Development of Electric Steel Furnaces.*—Colo. Sch. of Mines Mag., May, 1913; p 99; pp 4; 35c.

Lewis, Henry William.—*Iron Smelting in Maryland in the Eighteenth Century.*—Ir. Tr. Rev., Sept. 11, 1913; p 459; 2000 w*; 25c.

Martell, Paul.—*Zur Geschichte des Thomasverfahrens.* [On the history of the Thomas method of steel manufacture].—Zts. Zentral Verbd. Bergbau Betriebsl., Nov. 15, 1913; p 725; 2300 w; 35c.

Masselon, E.—*Le Four Electrique Helfenstein.* [The Helfenstein electric furnace].—Metallurgie, Oct. 1, 1913; p 780; 800 w*; 35c.

Oesterreich, M.—*The Helfenstein Large Electric Furnaces.* (Abstract from Stahl und Eisen, Feb. 20, 1913).—Iron Age, June 19, 1913; p 1482; 2800 w*; 30c.

Otto, Carl.—*Direkte Stahlerzeugung.* [The direct production of steel].—Berg & Hüttenmännische Rundschau, June 20, 1913; p 226; 1400 w; 35c.

Sainz, D. Nicolas.—*El Titano en Metalurgia.* [Titanium in metallurgy] (Paper presented at Congress of Metallurgical Industries at Barcelona, Spain).—Revista Minara, June 1, 1913; p 265; 2000 w; June 8; p 277; 1500 w; June 16; p 289; 3800 w; $1.05.

Seaver, Kenneth.—*The Manufacture of Open-Hearth Steel.* (Fifth article).—Ir. Tr. Rev., June 12, 1913; p 1355; 3000 w; 25c.

Shimer, W. R., and Kichline, F. O.—*Over Oxidation of Steel.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2361; 19 pp*; 35c.

Sykes, Wilfred.—*The Status of the Electric Steel Furnace.* (Paper read before Assn. Iron & Steel Elec. Engrs.).—Iron Age, Oct. 16, 1913; p 856; 3000 w; 30c.

Talbot, Benjamin.—*Design of Modern Open-Hearth Steel Furnace.*—Ir. Tr. Rev., Sept. 18, 1913; p 498; 5000 w*; 25c.

Talbot, Benjamin.—*On Modern Open-Hearth Steel Furnaces.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Review, London, Sept. 5, 1913; p 330; 6000 w*; 35c.

Vom Baur, C. H.—*New Electric Furnace of the Induction Type.*—Iron Age, Sept. 18, 1913; p 612; 1500 w*; 30c.

Whigham, William.—*Fuel Possibilities in Steel Making.* (Paper read before Am. Iron & Steel Inst.).—Iron Age, Nov. 6, 1913; p 1056; 3500 w; 30c. Iron Trade Rev., Dec. 18, 1913; p 1097; 6000 w; 25c.

——— *A Novel Combination Furnace for Making Steel.*—Iron Tr. Rev., Nov. 20, 1913; p 909; 1500 w*; 25c.

——— *Die chemische Wirkung des Ti-*

tans auf den Stahl. [The chemical action of titanium on steel].—Südwestdeutsche Industrieztg., Sept. 13, 1913; p 542; 1500 w; 35c.

———. *Electrométallurgie du Fer et de l'Acier, Procédés Froges-Heroult.* [Electrometallurgy of iron and steel, Froges-Heroult process].—Revue d'Electrochemie et de Electrometallurgie, April, 1913; p 85; 500 w*, with table of Heroult furnaces in service and under construction; 75c.

——— *Le Rôle des Scories dans la Raffinage de l'Acier Electrique.* [The role of slags in the refining of electric steel].—Revue Industrielle, Oct. 4, 1913; p 10; 1200 w; 35c.

———. *New Regenerative Heating Furnace.*—Met. & Chem. Eng., July, 1913; p 421; 1400 w*; 35c.

——— *Nouveau Four Electrique Type Rennerfelt.* [New electric furnace of the Rennerfelt type].—Jnl. du Four Electriq., Aug. 15, 1913; p 339; 250 w*; 35c.

——— *Noveau Four à Induction, Système Crafts.* [A new induction furnace, Crafts system].—Jnl. du Four Electriq., Oct. 15, 1913; p 436; 500 w*; 35c.

——— *The Open-Hearth Furnaces at Midland, Pa.*—Iron Age, Nov. 6, 1913; p 1025; 7000 w*; 30c.

——— *The Utilization of the Waste Heat of Regenerative Furnaces.* [Discussion of paper read at New York meeting].—Trans. Am. Inst. Mg. Engrs., Bull. 84, 1913; p 2893; 6 pp; 35c.

Mechanical and Heat Treatment (Physical Testing)

Campion, A., and Longbottom, J. G.—*Relative Properties of Acid and Basic Steel.* (Paper read before West of Scotland Iron & Steel Inst.; abstract).—Iron Age, Sept. 25, 1913; p 658; 5000 w; 30c.

Derihon, M.—*Notes on the Brittleness Test. For steels and forgings.* (Abstract of paper presented before Int. Assn. for Test. Materials).—Chem. Engr., June, 1913; p 244; 2000 w; 35c.

Fremont, C.—*New Method for Mechanical Tests on Cast Iron.* (Abstract of paper read before Int. Cong. Appl. Chem.).—Chem. Engr., June, 1913; p 237; 2000 w*; 35c.

Grard, C.—*Research on the Hardness of Steel* (Abstract of paper presented before Int. Assn. of Test. Materials).—Chem. Engr., June, 1913; p 239; 3750 w*; 35c.

Hall, John H.—*The Heat-Treatment of Carbon Steel Castings.* (Paper presented before Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 81; 2500 w; 25c.

Heym, Ingenieur.—*Die Kraftmaschinen in der amerikanischen Stahlindustrie.* [The power machinery in the American steel industry].—Kali, Erz & Kohle, Oct. 5, 1913; p 1001; 2000 w; Oct. 15; p 1037; 2300 w; Oct. 25; p 1077; 1600 w; Nov. 25, 1913; p 1179; 2200 w; Dec. 5, 1913; p 1215; 2500 w; Dec. 15; p 1252; 1000 w; $2.10.

Norris, George L.—*The Resistance of Steel to Wear.* (Paper presented before Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 75; 1200 w; 25c.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys.—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Portevin, M. A.—*Sur Deux Aciers Nickel-Chrom.* [On two nickel-chromium steels].—Revue de Métallurgie, July, 1913; p 808; 600 w*; $1.15.

Robin, Felix.—*Dévelopment des Grains de Recuit dans les Alliages.* [Development of grains in alloys by annealing].—Revue de Metallurgy, June, 1913; p 758; 1700 w*; $1.15.

Ruder, W. E.—*Grain Growth in Silicon Steel.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2805; 16 pp*; 35c.

Shore, Albert E.—*Notes on the Property of Toughness in Metals.* (Paper presented at meeting Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 86; 1000 w*; 25c.

Zimmerschield, K. W.—*Influence of Mass in Heat Treatment of Steel.* (Paper presented at annual meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 84; 1000 w*; 25c.

———. *Electrically-Operated Canadian Rolling Mill.*—Ir. Trade Rev., July 3, 1913; p 17; 2000 w*; 25c.

——— *Shock Tests for Cast Steel.* (Discussion of paper read at New York meeting).—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2904; 30 pp*; 35c.

——— *The Influence of Copper Upon the Physical Properties of Steel.* (Discussion of paper read at New York meeting).—Trans. Am. Inst. Mg. Engrs., Bull, 84, Dec., 1913; p 2936; 13 pp; 35c.

Foundry Practice

Belden, A. W.—*Tests of Cupola Gases and Temperatures.*—Ir. Tr. Rev., June 26, 1913; p 1462; 2500 w*; 25c.

Belden, A. W.—*Foundry-Cupola Gases and Temperatures.*—Bull. 54, U. S. Bureau of Mines; 29 pp*.

Cook, F. J.—*Blast-Quantity and Pressure in Cupola Working.* (Paper read before British Foundrymen's Assn.; abstract).—Ir. & C. Tr. Rev., London, July 4, 1913; p 14; 4000 w*; 35c.

Eckler.—*Luftcompressoren und die Anwendung der Druckluft in Giessereibetrieben;* [Air Compressors and Blast in Foundries].—Eisen-Zeitung, May 31, 1913; p 435; 600 w*; 35c.

Eckler, Oberingenieur. — *Sandstrahlgebläse zum Entzundern von Walzfabrikaten.* [Sand blast for cleaning rolled iron and steel articles].—Centralblatt Hütten & Malzwerke, May 15, 1913; p 268; 3200 w*; 35c.

——— *Foundry Pig Iron Smelted in Electric Furnaces.*—Ir. Tr. Rev., Sept. 18, 1913; p 493; 4500 w*; 25c.

———. *The Manufacture of Manganese Steel Castings.*—Ir. Tr. Rev., June 19, 1913; p 1404; 5000 w*; 25c.

———. *Ueber Sandstralgebläse;* [Sand Blast in the Foundry].—Eisen-Zeitung, May 31, 1913; p 437; 400 w*; 35c.

Miscellaneous Products and Production

Abbott, Robert S.—*The Influence of Various Elements on the Absorption of Carbon by Steel.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2389; 12 pp*; 35c.

Brandt, L.—*Ueber die Jodometrische Bestimmung des Arsens in Eisen und Eisenerzen nach Fällung mit Unterphosphoriger Säure.* [On the iodometric determination of arsenic in iron and iron ores after

precipitation with hypophosphorus acid].—Chemiker-Ztg., Nov. 25, 1913; p 1445; 2500 w; Dec. 2; p 1471; 1000 w; 70c

Bres, M.—*Divergences Entre la Structure et la Composition de Certains Aciers.* [Divergencies between the structure and the composition of certain steels].—Revue de Métallurgie, July, 1913; p 797; 2000 w*; $1.15.

Buck, D. M.—*Copper in Steel; The Influence on Corrosion.*—Jnl. Ind. & Engg. Chem., June, 1913; p 447; 4000 w*: 65c.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burchard, Ernest F.—*The Production of Iron Ore, Pig Iron and Steel in* 1912.—Advance chapter from Mineral Resources of U. S.; 58 pp*.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.*—Jnl. Ind. & Engg. Chem., June, 1913; p 458; 5500 w; 65c.

Burgess, G. K., and Crowe, J. J.—*The Critical Ranges A2 and A3 of Pure Iron.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2537; 54 pp*; 35c.

Burgess, G. K., and Waltenberg, R. C.—*Melting Points of the Refractory Elements.*—1. *Elements of Atomic Weight from* 48 *to* 59.—Reprint No. 205 from Bull. Bureau of Standards, Vol. 10; 14 pp*.

Cain, J. R., and Tucker, F. H.—*Determination of Phosphorus in Steels Containing Vanadium.*—Technologic Paper 24, Bureau of Standards, Dep. of Commerce; 12 pp.

Cain, J. R., and Tucker, F. H.—*Determination of Phosphorus in Steels Containing Vanadium.*—Jnl. Ind. & Engg. Chem., Aug., 1913; p 647; 4000 w; 65c.

Clement, J. K., and Walker, L. V.—*An Electrolytic Method of Preventing Corrosion of Iron and Steel.*—Washington, D. C.; Technical Paper 15, U. S. Bureau of Mines; 19 pp*.

Clevenger, G. Howell and Ray.—*Bhupendranath.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2437; 44 pp*; 35c.

Diller, J. S.—*The Production of Chromic Ore in United States in* 1912. (Abstract from Mineral Resources of U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 259; 300 w; 10c.

Duchez, J.—*La Fabrication de la Chaux pour Aciéries et les Fours a Chaux de Montgrignon, Prés Verdun.* [The manufacture of lime for steel works and the lime kilns of Montgrignon, near Verdun, France].—Revue Matériaux, June, 1913; p 89; 1600 w*; 75c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912.—Advance chapter from Mineral Resources of U. S.; 9 pp.

Evans, J. Clark.—*The Use of Steel Ties in Mining.* (Paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., June 26, 1913; p 191; 4000 w; 20c.

Fleming, William R.—*Determination of Oxygen in Iron and Steel.* (Paper read before Am. Soc. for Test. Materials).—Iron Age, June 26, 1913; p 1540; 4000 w*; 30c.

Fleming, Wm. R.—*The Determination of Oxygen in Iron and Steel.*—Ir. Tr. Rev., July 17, 1913; p 126; 3500 w*; 25c.

Franklin, Frederick H.—*A Fusion Method for the Determination of Sulphur in Iron and Steel.*—Jnl. Ind. & Eng. Chem.., Oct., 1913; p 839; 4000 w; 65c.

Giolitti, F., and Boyer, N.—*Sulla Cristallizzazione dell'Acciaio.* [On the crystallization of steel].—Metallurgia Ital., May 31, 1913; p 360; 3000 w*; $1.

Haan, Dipl. Ing.—*Schwefeleisen-Schwefelzinn.* [Iron sulphide-tin sulphide system].—Metall & Erz, Oct. 22, 1913; p 831; 1700 w*; 50c.

Haldane, W. W.—*Electrolytic Methods for Preventing Corrosion of Iron.*—Trans. Faraday Soc., July, 1913; p 115; 10 pp; 75c.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden;* [Mining in grand duchy of Baden (Germany)] (First part).—Glückauf, June 14, 1913; p 932; 6000 w*; 50c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June* 30, 1912.—U. S. Dep. of the Interior; 88 pp.

Jüngst, Ernst.—*50 Jahre oberschlesischer Eisenindustrie in statistischer Darstellung.* [Statistical presentation of 50 years of the Upper Silesian iron industry].—Glückauf, Aug. 30, 1913; p 1426; 35,000 w*; 50c.

Kohlmeyer, Ernst J.—*Ueber Bleioxyd und Eisenoxydulferrite;* [On lead-oxide and ferrous-oxide ferrites] (Last part).—Metall & Erz, May 22, 1913; p 483; 3500 w*; 50c.

König, Heinrich.—*Ueber die Bestimmung von Kobalt und Uran im Stahl.* [On the determination of cobalt and uranium in steel].—Chemiker-Ztg., Sept. 16, 1913; p 1106; 800 w; 35c.

Laveleye, E. De.—*Historical Survey of the Metallurgy of Iron in Belgium.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 327; 9000 w*; 35c.

Lambert, Bertram.—*An Electrolytic Theory of the Corrosion of Iron.*—Trans. Faraday Soc., July, 1913; p 108; 7 pp; 75c.

Lord, Nathaniel Wright, and Demorest, Dana J.—*Metallurgical Analysis. Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 (book).

Marantonio, Mario.—*Sulla Determinazione Rapida del Carbonio negli Acciai Speciali.* [On the rapid determination of carbon in special steels].—Metallurgia Ital., Aug. 31, 1913; p 543; 500 w*; $1.

McCabe, C. R.—*Calorimetric Method for Titanium in Iron and Steel.*—Jnl. Ind. & Engg. Chem., Sept., 1913; p 735; 2000 w; 65c.

McCabe, C. R.—*Vanadium in Steel by the Hydrogen Peroxide Color Method.*—Jnl. Ind. & Engg. Chem., Sept., 1913; p 736; 1600 w; 65c.

Mennicke, Hans.—*Die quantitativen Untersuchungsmethoden des Molybdäns, Vanadiums und Wolframs sowie deren Erze, Stähle, Legierungen und Verbindungen.* [The methods for the quantitative investigation of molybdenum, vanadium and tungsten as well as their ores, steels, alloys and compounds].—Berlin, 231 pp; $3.25 (book).

Norman, A. Dubois.—*The Protection of Iron and Steel by Paint Films.*—Jnl. Ind. & Engg. Chem., Dec., 1913; p 963; 3000 w*; 65c.

Pickard, J. A.—*Determination of Oxygen in Iron and Steel.* (Carnegie Scholarship Memoir to the Iron & Steel Inst., London, 1913; excerpts).—Iron Age, Aug. 7, 1913; p 290; 2000 w; 30c.

Pulsifer, H. B.—*The Microstructure of Metals.*—Chem. Engr., June, 1913; p 228; 5500 w*; 35c.

Rhead, E. L., and Sexton, A. H.—*Assay-*

ing and Metallurgical Analysis (Second Edition).—(See under Gold.)

Rogers, Allen and Aubert, Alfred E.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Sauveur, Albert. —*The Allotropic Transformations of Iron.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 344; 3100 w*; 35c.

Schulte, Walter B.—*The Influence of Cinders on the Corrosion of Iron Imbedded in Clay* (Paper presented at Eighth Internat. Cong. of Appl. Chem.)—Jnl. Ind. & Eng. Chem., July, 1913; p 554; 2100 w*; 65c.

Schwartz, Anton.—*How a German Iron and Steel Plant Is Equipped.*—Iron Tr. Rev., Oct. 16, 1913; p 673; 2000 w*; 25c.

Sidener, C. F., and Skartveldt, P. M.—*A Method for the Determination of Phosphorus in Vanadium Steel and Ferro-Vanadium.*—Jnl. Ind. & Eng. Chem., Oct., 1913; p 838; 1500 w; 65c.

Smart, George.—*High Costs and Low Prices Affect Pig Output.*—Ir. Trade Rev., July 10, 1913; p 57; 600 w; 25c.

Vaubel, Wilhelm.—*Eine neue chemische Ursache des Rostens von Eisen;* [A new chemical cause of the rusting of iron].—Chemiker-Ztg., June 10, 1913; p 693; 1200 w; 35c.

Walker, Wm. H., and Patrick, Walter A. —*The Determination of Oxygen in Iron and Steel by Reduction in an Electric Vacuum Furnace.* (Paper read before Int. Cong. Appl. Chem.; abstract).—Chem. Engr., June, 1913; p 234; 2800 w*; 35c.

Wdowiszewski, Henryk.—*Ein Beitrag zur volumetrischen Bestimmung des Phosphors im Stahl nach der Methode von Macagno.* [A contribution to the volumetric determination of phosphorus in steel according to the Macagno method].—Chemiker-Ztg., Sept. 6, 1913; p 1069; 2000 w; 35c.

Wheatley, Henry B.—*Charcoal Iron Works.* [History of ancient iron works].—Jnl. Royal Soc. Arts, London, Sept. 19, 1913; p 961; 8 pp; Sept. 26, 1913; p 977; 6 pp; 70c.

Williams, R. D.—*Steel Operations at the Soo.*—Ir. Tr. Rev., Sept. 4, 1913; p 401; 3500 w*; 25c.

Wilson, D. C.—*Iron; Where Does It All Go?*—Bull., Am. Foundrymen's Assn.; p 205; 3 pp; 35c.

Wright, Lewis T.—*The Reduction of Ferric Oxide by Ferrous Sulphide.*—E. & M. J., Nov. 1, 1913; p 825; 1300 w; 25c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institut der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School, Aachen]; Vol. 5.—Halle, 1913; 160 pp*; $5; (book).

——— *Analyzed Irons and Steels—Methods of Analysis.*—Circular No. 14, Bureau of Standards, U. S. Dep. of Commerce; 15 pp.

——— *Bergbau und Eisenindustrie Schwedens im Jahre,* 1912. [Mining and iron industry of Sweden in 1912].—Glückauf, Oct. 25, 1913; p 1772; 4500 w; 50c.

———. *Der Kohlenverbauch in der Deutschen Metallindustrie.* [The coal consumption in the German metal industry].—Centralblatt Hütten & Walswerke, July 15, 1913; p 387; 1500 w; 35c.

——— *Die Berg und Hüttenwerksproduktion Oesterreichs im Jahre* 1912. [The mining and metallurgical production of Austria in 1912].—Montanistische Rundschau, Oct. 16, 1913; p 981; 2500 w; 35c.

——— *Die Eisenindustrie Italiens.* [Italy's iron industry].—Berg & Hüttenmännische Rundschau, Sept. 5, 1913; p 298; 2800 w; 35c.

——— *Die Eisenindustrie in Italien.* [The iron industry in Italy].—Montan-Ztg., Sept. 1, 1913; p 326; 800 w; 35c.

——— *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

——— *Die Eisen und Maschinenindustrie Italiens im Jahre* 1912. [The iron and machinery industry of Italy in 1912].—Montan & Metallindustrie-Ztg., Aug. 10, 1913; p 5; 100 w; 35c.

———. *Die oberschlesische Bergwerks- und Hüttenindustrie im Jahre* 1912; [The Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

———. *Finished Steel Production in* 1912. (Abstracted from Am. Iron & Steel Assn. Report).—E. & M. J., Aug. 23, 1913, p 373; 700 w; 25c.

——— *Iron and Steel Production of Italy.*—E. & M. J., Dec. 27, 1913; p 1211; 500 w; 25c.

——— *Italian Mineral and Metallurgical Industries in* 1912. (Abstract from Revista del Servizio Minerario).—Iron & Coal Trade Rev., Dec. 5, 1913; p 875; 1500 w; 35c.

——— *La Production Siderurgique de la France en* 1912. [The iron and steel production of France in 1912].—Bull. Soc. Amicale Douai, Sept. 10, 1913; p 604; 300 w; 35c.

——— *La Russie Houillère et Métallurgique en* 1912. [Russian coal mining and metallurgy in 1912].—L'Echo des Mines, June 19, 1913; p 707; 1200 w; 35c.

——— *L'industria del ferro in Italia.* [The iron industry in Italy] (Translated from Nachtrichten für Handel & Industrie).—Metallurgia Ital., Sept. 30, 1913; p 640; 1800 w; 35c.

——— *L'industria siderurgica della Russia nel* 1912. [Russia's iron industry in 1912] (Translated from Stahl & Eisen).—Metallurgia Ital., Sept. 30, 1913; p 638; 500 w; 35c.

———. *Many Iron and Steel Specifications Revised.* (Report of proc. of Annual Meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 3, 1913; p 27; 12,500 w; 25c.

———. *Mineral Imports of the United Kingdom.*—Mg. Jnl., London, June 21, 1913; p 591; 2300 w; 35c.

——— *Relative Properties of Acid and Basic Steel.* (Abstract of paper read before W. of Scotland Iron & Steel Inst.).—Iron Age, Sept. 25, 1913; p 568; 3500 w; 30c.

———. *The Adolf-Emil Iron and Steel Works, Esch, Luxemburg.*—Ir. & C. Tr. Rev., May 30, 1913; p 875; 5000 w*; 35c.

——— *The Critical Ranges A2 and A3 of Pure Iron.* (Discussion of paper read at New York meeting).—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2870; 20 pp*; 35c.

———. *The Electric Steel Industry's Present Status.*—Ir. Age, July 10, 1913; p 81; 900 w; 30c.

——— *The Government and the Steel Corporation.* (From N. Y. Sun).—E. & M. J., Oct. 25, 1913; p 782; 800 w; 25c.

——— *The Influence of Various Elements on the Absorption of Carbon by Steel.* (Discussion of paper read at New York meeting).—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2890; 3 pp; 35c.

——— *The Minnesota Steel Co.'s Plant.*—Iron Age, Sept. 18, 1913; p 603; 2000 w*; 30c.

——— *The Plant of the Minnesota Steel Co. at Duluth, Minn.*—Iron Tr. Rev., Nov. 13, 1913; p 867; 5500 w*; 25c.

——— *The New-Duluth Plant of the Minnesota Steel Co.*—Mg. & Eng. World, Sept. 20, 1913; p 508; 600 w; 10c.

——— *The Plant of the Minnesota Steel Co. at Duluth, Minn.*—Iron Tr. Rev., Nov. 13, 1913; p 867; 5500 w*; 25c.

——— *Zur Chemie des Eisens.* [On the chemistry of iron].—Südwestdeutsche Industrie-Ztg., Oct. 4, 1913; p 590; 1200 w; 35c.

——— *Zur Geschichte des russischen Hüttenwesens.* [On the history of the Russian metallurgical industry].—Bergwerks-Ztg., Oct. 19, 1913; p 1; 1200 w; 35c

CHAPTER V.

ALLOYS, ANTIMONY, CHROMIUM, MANGANESE, MOLYBDENUM,

ALLOYS (NON-FERROUS)

Bennett, C. W.—*The Electrodeposition of Brass and Bronze.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 3000 w.

Bres, M.—*Divergences Entre la Structure et la Composition de Certains Aciers.* [Divergencies between the structure and the composition of certain steels].—Revue de Métallurgie, July, 1913; p 797; 2000 w*; $1.15.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burgess, G. K.—*The Nomenclature of Non-Ferrous Alloys.*—Paper read at Chicago meeting Am. Inst. Metals; 4 pp. Chem. Engr., Nov., 1913; 1800 w; 35c.

Cain, J. R., and Tucker, F. H.—*Determination of Phosphorus in Steels Containing Vanadium.*—Technologic Paper 24, Bureau of Standards, Dep. of Commerce; 12 pp.

Clevenger, G. Howell and Ray.—*Bhupendranath.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2437; 44 pp*; 35c.

Cohn, L. M.—*Aenderungen der physikalischen Eigenschaften von Aluminum und dessen Legierungen unter besonderer Berücksichtigung des Duralumins.* [Changes of the physical properties of aluminum and its alloys with special regard to Duralumin].—Elektrotechnik & Maschinenbau, May 18, 1913; p 430; 2800 w; 50c.

Coleman, A. P.—*The Nickel Industry: With Special Reference to the Sudbury Region, Ontario.*—Ottawa, Ont.; Monograph Canada Department of Mines, Mines Branch; 206 pp*.

Demorest, D. J.—*The Analysis of Alloys of Lead, Tin, Antimony and Copper.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 842; 2000 w; 65c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912.—Advance Chapter from Mineral Resources of U. S.; 9 pp.

Fairchild, J. G.—*Electro-Analysis of the Copper Alloys.*—Met. & Chem. Eng., July, 1913; p 380; 2200 w*; 35c.

Gillett, H. W., and Norton, A. B.—*The Approximate Melting Points of Some Commercial Copper Alloys.*—Tech. Paper 60, Mineral Tech. 5; U. S. Bur. Mines, 9 pp*.

Grotthuss-Call, L. Freiherr von.—*Wolfram-Thorium, eine duktile Legierung.* [Tungsten-thorium, a ductile alloy].—Metall & Erz, Oct. 22, 1913; p 844; 300 w; 50c.

Haynes, Elwood.—*Chrom-Nickel und Chrom-Kobalt-Legierungen.* [Chrome-nickel and chrome-cobalt alloys].—Südwestdeutsche Industriezg., May 17, 1913; p 295; 1500 w; 35c.

Hoffman, H. O.—*General Metallurgy.*—New York; McGraw-Hill Book Co.; 909 pp*; $6 (book).

Kalmus, H. T.—*The Metal Cobalt and Its Alloys.* (Report of investigations at School of Mining, Queen's Univ., Ontario).—Canadian Mg. Jnl., Dec. 15, 1913; p 795; 2800 w; 35c.

Koch, Berthold.—*Ueber Messinganalyse.* [On the analysis of brass].—Chemiker-Ztg., July 22, 1913; p 873; 2400 w; 35c.

Le Grix, G., and Broniewski, W.—*Sur la Dureté des Alliages Aluminium-Argent.* [On the hardness of the aluminum-silver alloys].—Revue de Metallurgie, Aug., 1913; p 1055; 3000 w*; $1.15.

Lord, Nathaniel Wright, and Demorest, Dana, J.—*Metallurgical Analysis, Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 (book).

Mennicke, Hans.—*Die quantitativen Untersuchungsmethoden des Molybdäns, Vanadiums und Wolframs sowie deren Erze, Stähle, Legierungen und Verbindungen.* [The methods for the quantitative investigation of molybdenum, vanadium and tungsten as well as their ores, steels, alloys and compounds].—Berlin, 231 pp; $3.25 (book).

Moldenhauer, W., and Anderson, J.—*Uber die Elektrolytische Darstellung von Calciumlegierungen und Calcium;* [Electrolytic Preparation of Calcium and Its Alloys].—Zeit. Elektrochemie, June 1, 1913; p 444; 2000 w*; 45c.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys].—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Portevin, M. A.—*Sur Deux Aciers Nickel-Chrom.* [On two nickel-chromium steels].—Revue de Métallurgie, July, 1913; p 808; 600 w*; $1.15.

Reichinstein, D.—*Beitrag zur Theorie der Chemischen Polarisation der Umkehrbaren Elektroden. Das Anodische Verhalten von Hg-Cu und Ag-Cu Legierungen;* [Contribution to the theory of chemical polarization of reversible electrodes. The anodic behavior of Hg-Cu and Ag-Cu alloys].—Zts. Elektrochemie, July 1, 1913; p 520; 5400 w*; 45c.

Robin, Felix.—*Développment des Grains de Recuit dans les Alliages.* [Development of grains in alloys by annealing].—Revue de Metallurgy, June, 1913; p 758; 1700 w*; $1.15.

Rosenhain and Archbutt.—*Les Alliages d'Aluminium et de Zinc.* [The alloys of aluminum and zinc] (Translation in abstract of the Tenth Report of the Committee on Alloys).—Revue de Métallurgie, July, 1913; p 822; 8000 w*; $1.15.

Tofani, Giovanni.—*Fixation de l'Azote par le Ferro-Silicium.* [Fixation of nitrogen by ferro-silicon] (Abstract from Atti del Congresso delle Applicazioni Elettriche, Turin, Italy).—Jnl. du Four Electriq., Aug. 15, 1913; p 339; 500 w; 35c.

Trenkner, M.—*The Determination of Gold, Silver and Platinum.* (Translated from Metallurgie, in Met. & Chem. Engg.).—Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institut der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute

of the Royal Technical High School, Aachen]; Vol. 5.—Halle, 1913; 160 pp*; $5; (book).

——. *Analyzed Irons and Steels—Methods of Analysis.*—(See under Iron & Steel).

——. *Conseils pour la Production des Alliages d'Aluminium.* [Suggestions on the production of alloys of aluminum] (Translated from Eisen Ztg.).—Metallurgie, Oct. 1, 1913; p 783; 700 w; 35c.

——. *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 15, 1913; p 502; 3200 w; 35c.

——. *Electro-Metallurgy in Norway* (From Jnl. Four Electriq).—E. & M. J., July 12, 1913; p 64; 3000 w; 25c.

——. *L'Aluminium Français à l'Exposition de Gand.* [French aluminum at the Gand Exposition].—Jnl. du Four Electriq., Sept. 1, 1913; p 368; 1400 w; 35c.

——. *Manufacture of Aluminum in France.* (Abstract from La Revue Electrique).—E. M. J., Nov. 29, 1913; p 1010; 500 w; 25c.

——. *Osmium-Platinum a New Alloy.*—Mg. & Eng. World, Nov. 1, 1913; 500 w; 10c.

——. *Transactions of the American Institute of Metals, Vol. VI,* 1912.—Buffalo, N. Y., Am. Inst. of Metals; 250 pp; $3 (book).

ANTIMONY

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 281; 2200 w; 25c.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.—Memoir No.* 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Demorest, D. J.—*The Analysis of Alloys of Lead, Tin, Antimony and Copper.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 842; 2000 w; 65c.

Dickson, Gordon F.—*Cam and Motor Metallurgy.* [Describes method of treating Rhodesian gold ore containing arsenic and antimony].—Mg. Mag., Aug., 1913; p 132; 2800 w*; 35c.

Hess, Frank L.—*The Production of Antimony, Arsenic, Bismuth and Selenium in* 1912.—Advance chapter from Mineral Resources of U. S.; 13 pp.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metal smelting in 1912].—Glückauf, Oct. 18, 1913; p 1723; 4000 w; Oct, 25, 1913; p 1766; 4600 w; $1.

Pulsifer, H. B.—*The Microstructure of Metals.*—Chem. Engr., June, 1913; p 228; 5500 w*; 35c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Schoeller, W. R.—*Ore Deposits of Hunan and Hu-peh, China.*—Jnl. Soc. Chem. Ind., May 31, 1913; p 517; 3000 w; 65c.

Scholler, A. R.—*The Antimony Ores of Central Hu-nan, China* (Abstract from Jnl. Soc. Chem. Ind., May 31, 1913).—E. & M. J., July 26, 1913; p 168; 400 w; 25c.

Serpek, O.—*Le Nitrure d'Aluminum et le Problème de l'Azote.* [Aluminum nitride and the nitrogen problem].—Jnl. du Four Electriq., June 15, 1913; p 265; 1800 w; July 1; p 289; 2000 w*; 70c.

——. *Die Eisen und Metallindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911]. (See Gold).

——. *Die französische Bergwerks-industrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

——. *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——. *Mineral Imports of the United Kingdom.*—See under Copper.

——. *Mining in Algeria.*—M. & S. P., Dec. 6, 1913; p 891; 2000 w; 20c.

——. *New Electro-Chemical Method.*—Mg. & Eng. World, July 12, 1913; p 48; 200 w; 10c.

——. *Production of Secondary Metals in* 1912. (Advance report of U. S. Geol. Surv.).—M. & S. P., June 28, 1913; p 990; 1400 w; 20c.

——. *Zur Kenntnis der Berg- und Hüttenindustrie in China.* [Concerning the mining and metallurgical industries in China].—Berg & Hüttenmännische Rundschau, Sept. 20, 1913; p 309; 2800 w; 35c.

ARSENIC

Brandt, L.—*Ueber die jodometrische Bestimmung des Arsens in Eisen und Eisenerzen nach Fällung mit unterphosphoriger Säure.* [On the iodometric determination of arsenic in iron and iron ores after precipitation with hypophosphorus acid].—Chemiker-Ztg., Nov. 25, 1913; p 1446; 2500 w; Dec. 2; p 1471; 1000 w; 70c.

Brownson, E. E.—*The Determination of Arsenic and Antimony.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 27, 1913; p 1155; 3200 w; 10c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Dickson, Gordon F.—*Cam and Motor Metallurgy.* [Describes method of treating Rhodesian gold ore containing arsenic and antimony].—Mg. Mag., Aug., 1913; p 132; 2800 w*; 35c.

Friedrich, K.—*Zur Kenntnis der Erstarrungspunkte der Kobaltnickelarsenide.* [Concerning the solidification points of cobalt-nickel arsenides].—Metall & Erz, Aug. 8, 1913; p 659; 9000 w*; 50c.

Hess, Frank L.—*The Production of Antimony, Arsenic, Bismuth and Selenium in* 1912.—Advance chapter from Mineral Resources of U. S.; 13 pp.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Miller, Willet G.—*The Cobalt Area, Ontario.* (Extracts from Guide Book No. 7, published by Geol. Surv. of Canada for Int. Geol. Congress).—Canadian Mg. Jnl., Sept. 1, 1913; p 543; 3000 w; Sept. 15, 1913; p 574; 3600 w; 70c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Third article).—M & S. P., July 5, 1913; p 14; 3000 w; 20c.

BISMUTH

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Hess, Frank L.—*The Production of Antimony, Arsenic, Bismuth and Selenium in* 1912.—Advance chapter from Mineral Resources of U. S.; 13 pp.

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; 72 pp; 75c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

——— *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de Minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *New Electro-Chemical Method.*—Mg. & Eng. World, July 12, 1913; p 48; 200 w; 10c.

CHROMIUM

Bres, M.—*Divergences Entre la Structure et la Composition de Certains Aciers.* [Divergencies between the structure and the composition of certain steels].—Revue de Métallurgie, July, 1913; p 797; 2600 w*; $1.15.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burgess, G. K., and Waltenberg, R. G.—*Melting Points of the Refractory Elements*—1. *Elements of Atomic Weight from* 48 *to* 59.—Reprint No. 205 from Bull. Bureau of Standards, Vol. 10; 14 pp*.

Diller, J. S.—*The Production of Chromic Ore in United States in* 1912. (Abstract from Mineral Resources of U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 259; 300 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Haynes, Elwood.—*Chrom-Nickel und Chrom-Kobalt-Legierungen.* [Chrome-nickel and chrome-cobalt alloys].—Südwestdeutsche Industrieztg., May 17, 1913; p 295; 1500 w; 35c.

Marantonio, Mario.—*Sulla Determinazione Rapida del Carbonio negli Acciai Speciali.* [On the rapid determination of carbon in special steels].—Metallurgia Ital., Aug. 31, 1913; p 543; 500 w*; $1.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Poizat, C. du.—*La Nouvelle-Calédonie Minière et Métallurgique en* 1912. [New Caledonia mining and metallurgy in 1912] (From L'Echo des Mines).—Bull. Soc. Amicale Douai, May 25, 1913; p 303; 1200 w; 35c.

Portevin, M. A.—*Sur Deux Aciers Nickel-Chrom.* [On two nickel-chromium steels].—Revue de Métallurgie, July, 1913; p 808; 600 w*; $1.15.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Scott, M.—*Des Minerais de Fer Chromifères de Grèce.* [The chromic iron ores of Greece] (Abstract from Iron & Steel Inst.).—L'Echo des Mines, May 26, 1913; p 600; 800 w; 35c.

Shore, Albert F.—*Notes on the Property of Toughness in Metals.* (Paper presented at meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 26; 1000 w*; 25c.

Zinsberg, S.—*The Determination of Tungsten, Chromium, Nickel, Molybdenum, Vanadium, Etc., in Steel.*—Mg. & Eng. World, Oct. 25, 1913; p 741; 400 w; 10c.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 15, 1913; p 502; 3200 w; 35c.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—Bergwerks-Ztg., Aug. 12, 1913; p 1; 1800 w; Aug. 13; 1000 w; Aug. 14; 1600 w; Aug. 15, 900 w.; $1.40.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *The World's Chrome Mines.*—Mg. Jnl., London, Oct. 11, 1913; p 979; 1500 w; 35c.

MANGANESE

Blum, William.—*Determination of Manganese as Sulphate and by Sodium Bismuthate Method.*—Bull. Vol. 8, No. 4, Bureau of Standards, U. S. Dep. of Commerce and Labor; p 715; 25 pp.

Brokaw, A. D.—*The Precipitation of Gold by Manganous Salts* (Paper Presented at Milwaukee meeting of Am. Chem. Soc.).—Jnl. Ind. & Eng. Chem., July, 1913; p 560; 1000 w; 65c.; abstract in M. & S. P., July 26, 1913; p 149; 1000 w*; 20c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Burgess, G. K., and Waltenberg, R. G.—*Melting Points of the Refractory Elements*—1. *Elements of Atomic Weight from* 48 *to* 59.—Reprint No. 205 from Bull. Bureau of Standards, Vol. 10; 14 pp*.

Eddingfield, F. T.—*Alteration and Enrichment in Calcite-Quartz-Manganese Gold Deposits in the Philippine Islands.*—Philippine Jnl. of Sci., April, 1913; p 125; 10 pp; 65c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912.—Advance chapter from Mineral Resources of U. S.; 9 pp.

Hewett, D. F.—*The Production of Man-*

ganese and Manganiferous Ores in 1912. —Advance chapter from Mineral Resources of U. S.; 21 pp.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Purdue, A. H.—*The Minerals of Tennessee; Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Schmidt, Albert.—*Die nordbayrischen Eisen- und Manganvorkommen.* [The north Bavarian occurrence of iron and manganese].—Berg & Hüttenmännische Rundschau, Sept. 5, 1913; p 293; 5000 w; 35c.

Tarugi, N.—*Utilization of Highly Siliceous Iron and Manganese Minerals* (From Chemiker-Ztg.).—E. & M. J., July 12, 1913; p 64; 250 w; 25c.

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Third article).—M. & S. P., July 5, 1913; p 14; 3000 w; 20c.

Wolf, E. J.—*Quick and Cheap Shallow Prospecting.* [Blue Ridge iron and manganese district, Virginia].—E. & M. J., June 14, 1913; p 1193; 500 w; 25c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institut der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School, Aachen] Vol. 5.—Halle, 1913; 160 pp*; $5; (book).

——— *Analyzed Irons and Steels—Methods of Analysis.*—Circular No. 14, Bureau of Standards, U. S. Dep. of Commerce; 15 pp.

——— *Analyzed Iron and Manganese Ores—Methods of Analysis.*—Circular No. 26, Bureau of Standards, U. S. Dep. of Commerce; 20 pp.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—Bergwerks-Ztg., Aug. 12, 1913; p 1; 1800 w; Aug. 13; 1000 w; Aug. 14; 1600 w; Aug. 15; 900 w; $1.40.

——— *Die Bergbauindustrie in der europäischen Türkei.* [The mining industry in European Turkey].—Montan-Ztg., Aug. 1. 1913; p 285; 1000 w; 35c.

——— *Die Eisen und Metallindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911]. (See Gold).

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

——— *La Production du Manganèse dans le Monde.* [The world's production of manganese].—Revue Pratiq. Ind'l Metlgq., Aug., 1913; p 7; 500 w; 40c.

——— *Los Paises Productores de Manganeso.* [The countries producing manganese].—Revista Minera, Aug. 24, 1913; p 413; 700 w; 35c.

———. *Manganese Ore Trade of the Caucasus.* (British consular report).—I. & C. Tr. Rev., June 27, 1913; p 1039; 800 w; 35c.

———. *Minerals from the Federated Malay States.*—Bull. Imp. Inst., London; April-June, 1913; p 243; 7 pp; 75c.

———. *Mineral Imports of the United Kingdom.*—Mg. Jnl., London, June 21, 1913; p 591; 2300 w; 40c.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

———. *Some Manganese and Copper Developments in the Olympic Mountains, Washington.*—Pacific Mg. Jnl., July, 1913; p 1; 1500 w*; 30c.

———. *The Manufacture of Manganese Steel Castings.*—Ir. Tr. Rev., June 19, 1913; p 1404; 5000 w*; 25c.

———. *The World's Supply of Manganese Ore.* (Abstract from Stahl und Eisen).—Iron Age, June 12, 1913; p 1432; 2000 w; 30c.

MOLYBDENUM

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912. (U. S. Consular Report). — Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin, Titanium, Tungsten, Uranium, and Vanadium in* 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Komarowsky, A.—*Ueber eine empfindliche Reaktion auf Molybdän.* [On a sensitive reaction for molybdenum].—Chemiker-Ztg., Aug. 9, 1913; p 957; 200 w; 35c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Mennicke, Hans.—*Die quantitativen Untersuchungsmethoden des Molybdäns, Vanadiums und Wolframs sowie deren Erze, Stähle, Legierungen und Verbindungen.* [The methods for the quantitative investigation of molybdenum, vanadium and tungsten as well as their ores, steels, alloys and compounds].—Berlin, 231 pp; $3.25 (book).

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Zinsberg, S.—*The Determination of Tungsten, Chromium, Nickel, Molybdenum, Vanadium, Etc., in Steel.*—Mg. & Eng. World, Oct. 25, 1913; p 741; 400 w; 10c.

——— *Analyzed Irons and Steels—Methods of Analysis.*—(See under Iron & Steel).

TITANIUM

Brunton, Stopford.—*Some Notes on Titaniferous Magnetite.*—Economic Geol., Oct., 1913; p 670; 14 pp*; 65c.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burgess, G. K., and Waltenberg, R. G.—Melting Points of the Refractory Elements —1. *Elements of Atomic Weight from* 48 *to*

59.—Reprint No. 205 from Bull. Bureau of Standards, Vol. 10; 14 pp*.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin, Titanium, Tungsten, Uranium, and Vanadium in* 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Kellogg, L. O.—*Experiment in Smelting Titaniferous Magnetite.*—E. & M. J., Sept. 27, 1913; p 604; 700 w; 25c.

McCabe, C. R.—*Calorimetric Method for Titanium in Iron and Steel.*—Jnl. Ind. & Engg. Chem., Sept., 1913; p 735; 2000 w; 65c.

Meuskens, Clemens.—*Die neuere Entwickelung der elektromagnetischen und elektrostatischen Erz-Aufbereitung.* [The recent development of electromagnetic and electrostatic ore preparation].—Technische Blätter, Sept. 7, 1913; p 341; 3200 w*; 35c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—See under Gold.)

Sainz, D. Nicolas.—*El Titano en Mutalurgia.* [Titanium in metallurgy] (Paper presented at Congress of Metallurgical Industries at Barcelona, Spain).—Revista Minara, June 1, 1913; p 265; 2000 w; June 8; p 277; 1500 w; June 16; p 289; 3800 w; $1.05.

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Third article).—M. & S. P., July 5, 1913; p 14; 3000 w; 20c.

——— *Analyzed Iron and Manganese Ores—Methods of Analysis.*—Circular No. 26, Bureau of Standards, U. S. Dep. of Commerce; 20 pp.

——— *Analyzed Irons and Steels—Methods of Analysis.*—Circular No. 14, Bureau of Standards, U. S. Dep. of Commerce; 15 pp.

——— *Die chemische Wirkung des Titans auf den Stahl.* [The chemical action of titanium on steel].—Südwestdeutsche Industrieztg., Sept. 13, 1913; p 542; 1500 w; 35c.

TUNGSTEN

Baskerville, Charles.—*The Chemistry of Tungsten, and the Evolution of the Tungsten Lamp.*—Trans. N. Y. Electrical Soc., New Series, 1912, No. 1; 25 pp; 50c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Falkenberg, Otto.—*Treatment of Tinstone and Wolframite.*—Mg. Jnl., London, Aug. 23, 1913; 1800 w*; 35c.

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand,; 142 pp*.

Grotthuss-Call, L. Freiherr von.—*Wolfram-Thorium, eine duktile Legierung.* [Tungsten-thorium, a ductile alloy].—Metall & Erz, Oct. 22, 1913; p 844; 300 w; 50c.

Gudgeon, Cyril W.—*Scheelite Mining in New Zealand.*—Aus. Mg. Stand., Nov. 13, 1913; p 409; 1700 w*; 35c.

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin, Titanium, Tungsten, Uranium, and Vanadium in* 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Johnson, C. M.—*The Determination of Phosphorus in Ferro-Tungsten, Etc.* (Abstract from Jnl. Ind. & Engg. Chem.).—Mg. & Eng. World, Oct. 11, 1913; p 658; 1200 w; 10c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Mennicke, Hans.—*Die quantitativen Untersuchungsmethoden des Molybdäns, Vanadiums und Wolframs sowie deren Erze, Stähle, Legierungen und Verbindungen.* [The methods for the quantitative investigation of molybdenum, vanadium and tungsten as well as their ores, steels, alloys and compounds].—Berlin, 231 pp; $3.25 (book).

Meuskens, Clemens.—*Die neuere Entwickelung der elektromagnetischen und elektrostatischen Erz-Aufbereitung.* [The recent development of electromagnetic and electrostatic ore preparation].—Technische Blätter, Sept. 7, 1913; p 341; 3200 w*; 35c.

Palmer, Leroy A.—*Tungsten in Boulder County, Colorado.*—E. & M. J., July 19, 1913; p 99; 4000 w*; 25c.

Prest, Walter H.—*The Gold Fields of Nova Scotia.*—Industrial Advocate, Halifax, Nov., 1913; p 5; 5 pp*; 35c.

Sembdner, Dr.—*Einiges aus der Zinnhüttenpraxis.* [Notes on tin-metallurgy practice].—Metall & Erz, Sept. 22, 1913; p 772; 3200 w; 50c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Sacristán, Julio.—*Los Crideros de Wolfram de los Terminos de Oliva de Jerez y Zahinos de la Provincia de Badajoz.* [The tungsten deposits at the boundaries of Oliva de Jerez and Zahinos in the province of Badajoz, Spain] (From Boletin del Instituto Geológico de España).—Revista Minera, Oct. 16, 1913; p 502; 1800 w; 35c.

Walker, T. L.—*Rapport sur les Minerais de Tungstene du Canada.* [Report on the tungsten ores of Canada].—Canada Dep. of Mines, Mines Branch; 58 pp*.

Zinsberg, S.—*The Determination of Tungstein, Chromium, Nickel, Molybdenum, Vanadium, Etc., in Steel.*—Mg. & Eng. World, Oct. 25, 1913; p 741; 400 w; 10c.

——— *Analyzed Irons and Steels.—Methods of Analysis.*—(See under Iron & Steel).

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

———. *Elektromagnetische Aufbereitung.* [Electro-magnetic preparation of ores].—Montanistische Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

———. *L'Industrie Minérale de l'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—l'Echo des Mines, June 2, 1913; p 626; 1100 w; 35c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

———. *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de Minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *Minerals from the Federated Malay States.*—Bull. Imp. Inst., London; April-June, 1913; p 243; 7 pp; 75c.

———. *Mining in Malaya in* 1912. (Report of the Warden of Mines; abstract).—Mg. Wld. & Engg. Rec., London, June 14, 1913; p 786; 1600 w; 35c.

——— *The Mining Industry in Queensland.*—Mg. Jnl., London, Nov. 8, 1913; p 1051; 2500 w; 35c.

URANIUM

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

König, Heinrich.—*Ueber die Bestimmung von Kobalt und Uran im Stahl.* [On the determination of cobalt and uranium in steel].—Chemiker-Ztg., Sept. 16, 1913; p 1106; 800 w; 35c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Segaud and Humery.—*Die Uranlager in Portugal;* [Uranium deposits in Portugal].—Zts. Zentral-Verbd. Bergbau Betriebsl., July 1, 1913; p 385; 1500 w*; 35c. Abstract in E. & M. J., July 12, 1913; p 71; 350 w; 25c.

VANADIUM

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912. (U. S. Consular Report). — Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burgess, G. K., and Waltenberg, R. G.—*Melting Points of the Refractory Elements*—1. *Elements of Atomic Weight from* 48 *to* 59.—Reprint No. 205 from Bull. Bureau of Standards, Vol. 10; 14 pp*.

Cain, J. R., and Tucker, F. H.—*Determination of Phosphorus in Steels Containing Vanadium.*—Technologic Paper 24, Bureau of Standards, Dep. of Commerce; 12 pp.

Cain, J. R., and Tucker, F. H.—*Determination of Phosphorus in Steels Containing Vanadium.*—Jnl. Ind. & Engg. Chem., Aug., 1913; p 647; 4000 w; 65c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin, Titanium, Tungsten, Uranium, and Vanadium in* 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Larsh, Paul A.—*Luck Bill Lead-Vanadium Mine.*—E. & M. J., Dec. 13, 1913; p 1103; 3700 w*; 25c.

McCabe, C. R.—*Vanadium in Steel by the Hydrogen Peroxide Color Method.*—Jnl. Ind. & Engg. Chem., Sept., 1913; p 736; 1600 w; 65c.

Mennicke, Hans.—*Die quantiativen untersuchungsmethoden des Molybdäns, Vanadiums und Wolframs sowie deren Erze, Stähle, Legierungen und Verbindungen.* [The methods for the quantitative investigation of molybdenum, vanadium and tungsten as well as their ores, steels, alloys and compounds].—Berlin, 231 pp; 3.25 (book).

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys].—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Shore, Albert F.—*Notes on the Property of Toughness in Metals.* (Paper presented at meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 86; 1000 w*; 25c.

Sidener, C. F., and Skartveldt, P. M.—*A Method for the Determination of Phosphorus in Vanadium Steel and Ferro-Vanadium.*—Jnl. Ind. & Eng. Chem., Oct., 1913; p 838; 1500 w; 65c.

Wells, Roger C.—*A New Occurrence of Cuprodescloizite.*—Am. Jnl. of Sci., Dec., 1913; p 636; 3 pp; 65c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institut der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School, Aachen] Vol. 5.—Halle, 1913; 160 pp*; $5; (book).

Zinsberg, S.—*The Determination of Tungsten, Chromium, Nickel, Molybdenum, Vanadium, Etc., in Steel.*—Mg. & Eng. World, Oct. 25, 1913; p 741; 400 w; 10c.

——— *Analyzed Iron and Manganese Ores—Methods of Analysis.*—Circular No. 26, Bureau of Standards, U. S. Dep. of Commerce; 20 pp.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

CHAPTER VI.

TIN, NICKEL, COBALT, ALUMINUM.

TIN

Bancroft, Howland.—*The Tin Situation in Bolivia.*—Bull. 1, Am. Inst. Mg. Engrs., Sept., 1913; p 2311; 19 pp*; 35c.

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 281; 2200 w; 25c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Carleton, A. E.—*New Tin Mines in South China.* (Abstract from Daily Consular & Trade Reports, March 27, 1913).—E. & M. J., July 26, 1913; p 167; 400 w; 25c.

Colledge, Alexander.—*Dredging for Tin in the Malay States.*—Mg. Mag., July, 1913; p 57; 2000 w*; 35c.

Collins, J. H.—*Black Tin and White Tin.* (Description of the processes in use).—Mg. Wld. & Engg. Rec., London, Sept. 20, 1913; p 349; 1800 w; 35c. Abstract in Malayan Tin & R. Jnl., Oct. 20, 1913; p 33; 2000 w; 35c.

Demorest, D. J.—*The Analysis of Alloys of Lead, Tin, Antimony and Copper.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 842; 2000 w; 65c.

Dittmann, Adolf.—*Das Zwitterstockwerk zu Geyer im Erzgebirge.* [The crystallized tin-ore deposits at Geyer in the Erzgebirge, Germany] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Sept. 8, 1913; p 735; 4500 w*; Sept. 22; p 778; 4000 w*; Oct. 8; p 807; 7500 w*; $1.50.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Falkenberg, Otto.—*Treatment of Tinstone and Wolframite.*—Mg. Jnl., London, Aug. 23, 1913; 1800 w*; 35c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Gwyn-Williams, R. H.—*Mining in Katanga, Congo Belge.*—Mg. Jnl., London, Aug. 23, 1913; 3000 w; 35c.

Haan, Dipl. Ing.—*Schwefeleisen-Schwefelzinn.* [Iron sulphide-tin sulphide system].—Metall & Erz, Oct. 22, 1913; p 831; 1700 w*; 50c.

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin, Titanium, Tungsten, Uranium, and Vanadium in* 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Kern, Edward F.—*The Electrodeposition of Tin.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; p 193; 12,000 w. Abstract in Chem. Eng., June, 1913; p 249; 15,000 w; 35c.

Lord, Nathaniel Wright, and Demorest, Dana J.—*Metallurgical Analysis, Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 (book).

Master, George Chester.—*Tin Mining in Mexico.*—Mg. Mag., Sept., 1913; p 199; 3200 w*; 35c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Meuskens, Clemens.—*Die neuere Entwickelung der elektromagnetischen und elektrostatischen Erz-Aufbereitung.* [The recent development of electro magnetic and electrostatic ore preparation].—Technische Blätter, Sept. 7, 1913; p 341; 3200 w*; 35c.

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metal smelting in 1912].—Glückauf, Oct. 18, 1913; p 1723; 4000 w; 50c.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys].—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Pulsifer, H. B.—*The Microstructure of Metals.*—Chem. Engr., June, 1913; p 228; 5500 w*; 35c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Robin, Felix.—*Dévelopment des Grains de Recuit dans les Alliages.* [Development of grains in alloys by annealing].—Revue de Métallurgie, June, 1913; p 758; 1700 w*; $1.15.

Robin, Felix.—*Recherches sur le Développement des Grains des Métaux par Recuit Après Écrouissage.* [Researches on the development of the grains of metals by alloying after hammering].—Revue de Metallurgie, June, 1913; p 722; 6000 w*; $1.15.

Schonberg, A. C.—*Bucket Dredgers.* [Notes on recovery of tin].—Malayan Tin & R. Jnl., May 5, 1913; 1700 w; 35c.

Sembdner, Dr.—*Einiges aus der Zinnhüttenpraxis.* [Notes on tin-metallurgy practice].—Metall & Erz, Sept. 22, 1913; p 772; 3200 w; 50c.

Stutzer, O.—*Ueberblick über die nutzbaren Lagerstätten Katangas.* [A survey of the useful deposits of Katanga, Belgian Congo].—Metall & Erz, Aug. 30, 1913; p 679; 3300 w*; 50c.

Tait, Peter G.—*The Northeastern Tin Fields of Tasmania.*—Mg. & Engg. Rev., July 5, 1913: p 397; 3000 w*; 35c.

Tait, Peter G.—*Tin Mining in Tasmania.* (Abstract from Mg. & Eng. Rev.).—M. & S. P., Oct. 18, 1913; p 615; 2600 w*; 20c.

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Third article).—M. & S. P., July 5, 1913; p 14; 3000 w; 20c.

Wepfer, G. W.—*Railroads and Transpor-*

tation Problems in Bolivia.—M. & S. P., July 19, 1913; p 100; 1800 w*; 20c.

———. *Australian Tin Production.*—Mg. Jnl., London, June 7, 1913; p 547; 1500 w; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Chenhall's Tin Extraction Process.*—Mg. Jnl., London, Sept. 6, 1913; p 854; 1000 w; 35c.

——— *Die Eisen und Metallindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911]. (See Gold).

——— *Chenhall's Tin-Extraction Process.* (From Mg. Jnl.).—E. & M. J., Oct. 25, 1913; p 771; 800 w; 25c.

——— *China as a Tin Producer.*—M. & S. P., Oct. 25, 1913; p 646; 500 w; 20c.

——— *Die elektromagnetische Aufbereitung mit besonderer Berücksichtigung des Erzscheiders Bauart Ullrichs.* [Electromagnetic ore preparations with special reference to the Ullrich ore separator].—Montanist. Rundschau, Nov. 16, 1913; p 1095; 2000 w*; 35c.

———. *Elektromagnetische Aufbereitung.* [Electro-magnetic preparation of ores].—Montanist. Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

——— *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co., A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

——— *Historical Note on Tin Smelting.* (Excerpt from Book IX of Hoover's Trans. of Agricola).—E. & M. J., Sept. 13, 1913; p 495; 1500 w; 25c.

———. *L'Industrie Minérale de l'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 1100 w; 35c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

———. *Minerals from the Federated Malay States.*—Bull. Imp. Inst., London; April-June, 1913; p 243; 7 pp; 75c.

——— *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de Minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *Mining Enterprises in South China.* (U. S. consular report; abstract).—Mg. & Eng. World, July 5, 1913; p 11; 200 w; 10c.

———. *Mining in Malaya in* 1912. (Report of the Warden of Mines; abstract).—Mg. Wld. & Engg. Rec., London, June 14, 1913; p 786; 1600 w; 35c.

——— *Mining in Tasmania in* 1912.—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1700 w; 35c.

———. *New Electro-Chemical Method.*—Mg. & Eng. World, July 12, 1913; p 48; 200 w; 10c.

———. *Preise unedler Metalle im ersten Halbjahr* 1913; [Prices of base metals in the first half of 1913].—Bergwerks-Ztg., July 17, 1913; p 1; 800 w; 35c.

——— *Tasmanian Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

———. *The Electric Smelting of Tin.*—S. Af. Mg. Jnl., June 7, 1913; p 386; (first S. Af. Mg. Jnl., June 7, 1913; p 386; 2000 w; June 14, 1913; p 405; 70c.

——— *The Mining Industry in Queensland.*—Mg. Jnl., London, Nov. 8, 1913; p 1051; 2500 w; 35c.

———. *The Prosperity of the Federated Malay States.*—Mg. Jnl., London, June 14, 1913; p 567; 1700 w; 35c.

——— *The Smelting of Tin Ore in the Electric Furnace.* (An article based on experiments carried out by H. Harden in Cornwall and described in Elektrotechnische Zeitschrift; translation).—Mg. Jnl., Oct. 18, 1913; p 1002; 1200 w; 35c.

NICKEL.

Atack, Frederick William.—*Ueber die Anwendung des a-Benzildioxims zum Nachweis von Nickel.* [On the use of a-benzildioxime for the detection and determination of small quantities of nickel].—Chemiker-Ztg., June 28, 1913; p 773; 600 w; 35c.

Brea, M.—*Divergences Entre la Structure et la Composition de Certains Aciers.* [Divergencies between the structure and the composition of certain steels].—Revue de Métallurgie, July, 1913; p 797; 2000 w*; $1.15.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.*—Jnl. Ind. & Engg. Chem., June, 1913; p 458; 5500 w; 65c.

Coleman, A. P.—*The Nickel Industry: With Special Reference to the Sudbury Region, Ontario.*—Ottawa, Ont.; Monograph Canada Department of Mines, Mines Branch; 206 pp*. Abstract in M. & S. P., Sept. 13, 1913; p 412; 6000 w*; 20c.

Coleman, A. P.—*The Nickel Deposits of the Sudbury District, Ontario.* (Extracts from Guide Book No. 7, published for Int. Geol. Cong.).—Canadian Mg. Jnl., Sept. 1, 1913; p 552; 1300 w; 35c.

Coleman, A. P.—*Metallurgy of Sudbury Copper-Nickel Ores.* (Abstract from Monograph issued by Dept. of Mines, Canada; p 1069; 2600 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912.—Advance chapter from Mineral Resources of U. S.: 9 pp.

Eilers, A.—*Occurrence of Some of the Rarer Metals in Blister Copper.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 1000 w; 10c.

Friedrich, K.—*Zur Kenntnis der Erstarrungspunkte der Kobaltnickelarsenide.* [Concerning the solidification points of cobalt-nickel arsenides].—Metall & Erz, Aug. 8, 1913; p 659; 9000 w*; 50c.

Haynes, Elwood.—*Chrom-Nickel und Chrom-Kobalt-Legierungen.* [Chrome-nickel and chrome-cobalt alloys].—Südwestdeutsche Industrieztg., May 17, 1913; p 295; 1500 w; 35c.

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin,*

Titanium, Tungsten, Uranium, and Vanadium in 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Hore, Reginald E.—*Magmatic Origin of Sudbury Nickel-Copper Deposits.* (Paper read before Canadian Mg. Inst.; abstract).—Canadian Mg. Jnl., July 15, 1913; p 437; 6500 w*; 35c.

Lalande, De.—*Le Nickel en* 1912. [Nickel in 1912] (From L'Echo des Mines).—Bull. du Commerce, April 12, 1913; p 15; 600 w; 35c.

Marantonio, Mario.—*Sulla Determinazione Rapida del Carbonio negli Acciai Speciali.* [On the rapid determination of carbon in special steels].—Metallurgia Ital., Aug. 31, 1913; p 543; 500 w*; $1.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

Miller, Willet G.—*The Cobalt Area, Ontario.* (Extracts from Guide Book No. 7, published by Geol. Surv. of Canada for Int. Geol. Congress).—Canadian Mg. Jnl., Sept. 1, 1913; p 543; 3000 w; Sept. 15, 1913; p 574; 3600 w; 70c.

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metal smelting in 1912].—Glückauf, Oct. 18, 1913; p 1723; 4000 w; 50c.

Poizat, C. du.—*La Nouvelle-Calédonie Minière et Métallurgique en* 1912. [New Caledonia mining and metallurgy in 1912] (From L'Echo des Mines).—Bull. Soc. Amicale Doual, May 25, 1913; p 303; 1200 w; 35c.

Portevin, A.—*Contribution a l'Etude de l' Influencedu Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys.—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Portevin, M. A.—*Sur Deux Aciers Nickel-Chrom.* [On two nickel-chromium steels].—Revue de Métallurgie, July, 1913; p 808; 600 w*; $1.15.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Shore, Albert F.—*Notes on the Property of Toughness in Metals.* (Paper presented at meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 86; 1000 w*; 25c.

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Third article).—M. & S. P., July 5, 1913; p 14; 3000 w; 20c.

Watts, Oliver P.—*The Electrodeposition of Cobalt and Nickel.*—Trans. Am. Electrochem. Soc., Vol. 23; p 99; 12,000 w.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dept. of Mines, Geol. Survey; 62 pp*.

Zinsberg, S.—*The Determination of Tungsten, Chromium, Nickel, Molybdenum, Vanadium, Etc., in Steel.*—Mg. & Eng. World, Oct. 25, 1913; p 741; 400 w; 10c.

——— *Analyzed Irons and Steels—Methods of Analysis.*—(See under Iron & Steel).

——— *Die Eisen und Metallindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911]. (See Gold).

——— *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co., A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

———. *Nickel Developments at Sudbury, Ontario.*—E. & M. J., Aug. 2, 1913; p 205; 1100 w; 25c.

——— *Nickel in South Africa.*—S. A. Mg. Jnl., Aug. 16, 1913; p 642; 2000 w; 35c.

——— *Sorting, Roasting and Smelting Nickel-Copper Ore, Canadian Copper Co.*—Canadian Mg. Jnl., Aug. 1, 1913; p 482; 4000 w*; 35c.

——— *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines report).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

——— *Zur Kenntnis der Berg- und Hütteninduatrie in China.* [Concerning the mining and metallurgical industries in China].—Berg & Hüttenmännische Rundschau, Sept. 20, 1913; p 309; 2800 w; 35c.

COBALT

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Burgess, G. K., and Waltenberg, R. G.—*Melting Points of the Refractory Elements*—1. *Elements of Atomic Weight from* 48 *to* 59.—Reprint No. 205 from Bull. Bureau of Standards, Vol. 10; 14 pp*.

Friedrich, K.—*Zur Kenntnis der Erstarrungspunkte der Kobaltnickelarsenide.* [Concerning the solidification points of cobalt-nickel arsenides].—Metall & Erz, Aug. 8, 1913; p 659; 9000 w*; 50c.

Haynes, Elwood.—*Chrom-Nickel und Chrom-Kobalt-Legierungen.* [Chrome-nickel and chrome-cobalt alloys].—Südwestdeutsche Industrieztg., May 17, 1913; p 295; 1500 w; 35c.

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin, Titanium, Tungsten, Uranium, and Vanadium in* 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Hore, Reginald E.—*Method of Mining at Cobalt, Ontario.*—Canadian Mg. Jnl., Aug. 1, 1913; p 476; 1500 w*; 35c.

Kalmus, H. T.—*The Metal Cobalt and Its Alloys.* (Report of investigations at School of Mining, Queen's Univ., Ontario).—Canadian Mg. Jnl., Dec. 15, 1913; p 795; 2800 w; 35c.

König, Heinrich.—*Ueber die Bestimmung von Kobalt und Uran im Stahl.* [On the determination of cobalt and uranium in steel].—Chemiker-Ztg., Sept. 16, 1913; p 1106; 800 w; 35c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Miller, Willet G.—*The Cobalt Area, Ontario.* (Extracts from Guide Book No. 7, published by Geol. Surv. of Canada for Int. Geol. Congress).—Canadian Mg. Jnl., Sept. 1, 1913; p 543; 3000 w; Sept. 15, 1913; p 574; 3600 w; 70c.

Poizat, C. du.—*La Nouvelle-Calédonie Minière et Métallurgique en* 1912. [New Caledonia mining and metallurgy in 1912] (From L'Echo des Mines).—Bull. Soc.

Amicale Douai, May 25, 1913; p 303; 1200 w; 35c.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrences and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Third article).—M. & S. P., July 5, 1913; p 14; 3000 w; 20c.

Watts, Oliver P.—*The Electrodeposition of Cobalt and Nickel.*—Trans. Am. Electrochem. Soc., Vol. 23; p 99; 12,000 w.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dep. of Mines, Geol. Survey; 62 pp*.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institut der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School, Aachen]; Vol. 5; (book).

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Mining in Algeria.*—M. & S. P., Dec. 6, 1913; p 891; 2000 w; 20c.

——— *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines report).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

ALUMINUM

Brislee, F. J.—*The Density of Aluminum.*—Trans. Faraday Soc., London, July, 1913; p 162; 12 pp*; 50c.

Burchard, Ernest F.—*The Production of Fluorspar and Cryolite in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 9 pp*.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Cohn, L. M.—*Aenderungen der physikalischen Eigenschaften von Aluminum und dessen Legierungen unter besonderer Berücksichtigung des Duralumins.* [Changes of the physical properties of aluminum and its alloys with special regard to duralumin].—Elektrotechnik & Maschinenbau, May 18, 1913; p 430: 2800 w: 50c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912.—Advance chapter from Mineral Resources of U. S.; 9 pp.

Le Grix, G., and Broniewski, W.—*Sur la Dureté des Alliages Aluminium-Argent.* [On the hardness of the aluminum-silver alloys].—Revue de Métallurgie, Aug., 1913; p 1055; 3000 w*; $1.15.

McLeish, John.—*Annual report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold).

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Pascal, Paul.—*Die Elektrometallurgie des Aluminiums I. Das Ternäre System Tonerde-Fluorit-Kryolith.* [The electrometallurgy of aluminum. I. The ternary system clay-fluorite-cryolite].—Zts. Elektrochemie, Aug. 15, 1913; p 610; 1500 w*; 45c.

Phalen, W. C.—*The Production of Bauxite and Aluminum in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv., 16 pp.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys].—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Richards, J. W.—*Aluminium Nitride.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 2400 w*.

Robin, Felix.—*Dévelopment des Grains de Recuit dans les Alliages.* [Development of grains in alloys by annealing].—Revue de Metallurgie, June, 1913; p 758; 1700 w*; $1.15.

Robin, Felix.—*Recherches sur le Développement des Grains des Métaux par Recuit Après Écrouissage.* [Researches on the development of the grains of metals by alloying after hammering].—Revue de Metallurgie, June, 1913; p 722; 6000 w*; $1.15.

Rosenhain and Archbutt.—*Les Alliages d'Aluminium et de Zinc.* [The alloys of aluminum and zinc] (Translation in abstract of the Tenth Report of the Committee on Alloys).—Revue de Métallurgie, July, 1913; p 822; 8000 w*; $1.15.

Welbourn, Burkewood.—*Insulated and Bare Copper and Aluminum Cables for the Transmission of Electrical Energy, with Special Reference to Mining Work.* (Abstract from paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 916; 7000 w*; 35c. Electrician, London, June 20, 1913; p 439; 4500 w; 35c.

———. *Aluminum Dust Precipitation of Silver from Cyanide Solutions.* [Contains excerpts from article in E. & M. J., by E. M. Hamilton].—Mg. Sci., July, 1913; p 43; 2100 w*; 35c.

——— *Analyzed Iron and Manganese Ores—Methods of Analysis.*—Circular No. 26, Bureau of Standards, U. S. Dep. of Commerce; 20 pp.

——— *Conseils pour la Production des Alliages d'Aluminium.* [Suggestions on the production of alloys of alluminum] (Translated from Eisen Ztg.).—Metallurgie, Oct. 1, 1913; p 783; 700 w; 35c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Die Eisen und Metallindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911]. (See under Gold.)

——— *Die Wirkung von Tonerde auf Erdöl.* [The action of alumina on petroleum.] (Translated from Neftjanoje djelo).—Chemiker & Tech.—Ztg., Sept. 15, 1913; p 142; 600 w; 35c.

———. *Discoveries in Alumino-Thermal Reactions.*—Mg. & Eng. World, June 14, 1913; p 1127; 800 w; 10c.

———. *Electro-Metallurgy in Norway* (From Jnl. Four Electriq).—E. & M. J., July 12, 1913; p 64; 3000 w; 25c.

——— *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co., A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

——— *L'Aluminium Français à l'Exposition de Gand.* [French aluminum at the Gand Exposition].—Jnl. du Four Electriq., Sept. 1, 1913; p 368; 1400 w; 35c.

———. *L'Industrie Minerale de L'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 110 w; 35c.

——— *Manufacture of Aluminum in France.* (Abstract from La Revue Electrique).—E. & M. J., Nov. 29, 1913; p 1010; 500 w; 25c.

———. *Production of Aluminum in United States and Its Many Uses.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1182; 1000 w; 10c.

———. *The Aluminum Industry in* 1912. (Abstract from Jnl. Ind. & Eng. Chem.). —Mg. & Eng. World, Aug. 16, 1913; p 204; 400 w; 10c.

———. *The Aluminum Industry in* 1912. —Mg. & Eng. World, Aug. 16, 1913; p 204; 550 w; 10c.

CHAPTER VII.

MISCELLANEOUS METALS AND ORES.

MERCURY

Bonney, Wilbert L.—*Mineral Resources of San Luis Potosi, Mexico.* (U. S. Consular Trade Report).—Mex. Mg. Jnl., June, 1913; p 281; 2200 w; 25c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Eddy, Lewis H.—*Quicksilver Operations in Northern California.*—E. & M. J., Nov. 1, 1913; p 828; 600 w; 25c.

Green, Robert M.—*Cinnabar Deposits of New Zealand.*—Mg. Wld. & Engg. Rec., London, Nov. 8, 1913; p 559; 750 w; 35c.

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

McCaskey, H. D.—*Quicksilver in* 1912; *Production and Resources.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 20 pp.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Neumann, B.—*Das Metallhüttenwesen im Jahre,* 1912. [Metallurgy in 1912].—Glückauf, Oct. 25, 1913; p 1766; 4600 w; 50c.

Northey, George V.—*Concentration of Cinnabar Ores.*—E. & M. J., Oct. 25, 1913; p 783; 900 w*; 25c.

Reichinstein, D.—*Beitrag zur Theorie der Chemischen Polarisation der Umkehrbaren Elektroden. Das Anodische Verhalten von Hg-Cu und Ag-Cu Legierungen;* [Contribution to the theory of chemical polarization of reversible electrodes. The anodic behavior of Hg-Cu and Ag-Cu alloys].—Zts. Elektrochemie, July 1, 1913; p 520; 5400 w*; 45c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *California's Varied Mineral Production.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 890; 500 w; 10c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Eisen und Metallindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911]. (See under Gold.)

——— *Die Minenindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

——— *Extraction, Properties and Uses of Mercury.* (Abstract from Bull. Imp. Inst.).—Mg. & Eng. World, Oct. 25, 1913; p 751; 1500 w; 10c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

———. *L'Industrie Minerale de L'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 110 w; 35c.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 10c.

PIGMENTS

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold).

RADIUM AND RADIO-ACTIVES

See also Uranium.

Cameron, A. T.—*Recent Work on the Transmutation of Elements.*—Radium, June, 1913; p 3; 1800 w; July, 1913; p 3; 4 pp; 70c.

Curran, Thomas F. V.—*Carnotite.*—E. & M. J., Dec. 20, 1913; p 1165; 3200 w; Dec. 27, 1913; p 1223; 3200 w; 50c.

Fawns, Sydney.—*Radium: Its Production and Uses.* 60 pp. $1 (book).

Fischer, Siegfried.—*The Carnotite Industry.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. Sci., Nov., 1913; p 259; 3500 w*; 35c.

Glaser, Fritz.—*Ueber die Gewinnung radioaktiver Körper aus Thorium.* [On the recovery of radio-active bodies from Thorium].—Chemiker-Ztg., Sept. 16, 1913; p 1105; 1300 w; 35c.

Hardén, Joh.—*The Radium Institute, St. Joachimsthal.*—Chem. & Met. Engg., Dec., 1913; p 894; 2000 w; 35c.

Heinrichs, Ernest H.—*Present Status of the World's Radium Industry.*—Mg. & Eng. World, Nov. 8, 1913; p 832; 1000 w; 10c.

Hirshberg, L. K.—*Chemical and Metallurgical Miscellany.*—Mg. & Eng. World, Dec. 13, 1913; p 1067; 2300 w; 10c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June* 30, 1912.—U. S. Dep. of the Interior; 88 pp.

Jordan, S. G.—*Radium Banking; A New Business.*—Tech. World, Aug., 1913; p 913; 1700 w*; 25c.

Parsons, Charles L.—*Our Radium Re-*

sources. (Paper read before Am. Mg. Cong.).—Jnl. Ind. & Engg. Chem., Nov., 1913; p 943; 4000 w; 35c. S. L. Mg. Rev., Nov. 15, 1913; p 14; 5500 w*; 25c.

Segaud and Humery.—*Die Uranlager in Portugal;* [Uranium deposits in Portugal]. —Zts. Zentral-Verbd. Bergbau Betriebsl., July 1, 1913; p 385; 1500 w*; 35c.

Segaud and Humery—*The Uranium Deposits of Portugal.* (Abstract from Ann. de Mines).—E. & M. J., July 12, 1913; p 71; 250 w; 25c.

Shedd, John C.—*Radioactivity of the Mineral Springs of Manitou, Colorado.*—Proc. Colo. Sci. Soc., Vol. X, pp 233-263*; 65c.

Strong, W. W.—*The Distribution of Radio-Active Substances in the Universe.*—Radium, July, 1913; p 10; 3 pp; 35c. Abstract in Mg. & Eng. World, Oct. 4, 1913; p 608; 1300 w; 10c.

Strong, W. W.—*Radio-Activity and Geology; the Evolution of the Elements.*—Radium, Nov., 1913; p 24; 2 pp; 35c.

Viol, C. H.—*The Radio-Active Elements.* —Radium, June, 1913; p 8; 3000 w; 35c.

Wellisch, E. M.—*The Distribution of the Active Deposit of Radium in an Electric Field.*—Am. Jnl. Sci., Oct., 1913; p 315; 13 pp*; 65c.

Wellisch, E. M., and Woodrow, J. W.—*Experiments on Columnar Ionization.*—Am. Jnl. Sci., Sept., 1913; p 214; 17 pp*; 65c.

——— *Actinium the Mining Mystery of the Age.*—Mg. & Eng. World, Oct. 4, 1913; p 604; 500 w; 10c.

——— *Conserving the Carnotite Deposits of the United States.* (Abstract from Bull. 70, U. S. Bur. of Mines).—Mg. & Eng. World, Dec. 27, 1913; p 1160.

——— *Radium Produced in France from Cornish Ore.*—Mg. Jnl., London, Nov. 22, 1913; p 1118; 2400 w*; 35c.

———. *Radium Production in Australia.* —Mg. Jnl., London, Nov. 29, 1913; p 1134; 2000 w; 35c.

SELENIUM

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry).

Hess, Frank L.—*The Production of Antimony, Arsenic, Bismuth and Selenium in* 1912.—Advance chapter from Mineral Resources of U. S.; 13 pp.

TANTALUM

Baumhauer, H. F.—*Das Tantalmetall und seine Verwertung;* [Metallic tantalum, its preparation and utilization].—Südwestdeutsche Industrieztg., June 7, 1913; p 335; 1700 w; 35c.

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin, Titanium, Tungsten, Uranium, and Vanadium in* 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Oesterheld, G.—*Tantal als Kathodenmaterial.* [Tantalum as a material for cathodes].—Zts. Elektrochemie, Aug. 1, 1913; p 585; 1500 w*; 45c.

Wegelin, Gustav.—*Ueber die Verwendung von Tantalelektroden zur elektroanalytischen Bestimmung von Kupfer und Zink.* [On the use of tantalum electrodes in the electro-analytical determination of copper and zinc].—Chemiker-Ztg., Aug. 19, 1913; p 989; 800 w; 35c.

THORIUM

Glaser, Fritz.—*Ueber die Gewinnung radioaktiver Körper aus Thorium.* [On the recovery of radio-active bodies from Thorium].—Chemiker-Ztg., Sept. 16, 1913; p 1105; 1300 w; 35c.

Grotthuss-Call, L. Freiherr von.—*Wolfram-Thorium, eine duktile Legierung.* [Tungsten-thorium, a ductile alloy].—Metall & Erz, Oct. 22, 1913; p 844; 300 w; 50c.

Wirth, Fritz.—*Ueber die Gewinnung der Thorerde aus dem Monazitsand mit Hilfe der Unterphosphorsäure sowie über den Nachweis des Cers mit einer alkalischen Ammontartratlösung.* [On the recovery of thoria from monazite sand with the aid of hypo-phosphoric acid; also on the detection of cerium with an alkaline ammonium-nitrate solution].—Chemiker-Ztg., June 28, 1913; p 773; 800 w; 35c.

MISCELLANEOUS (Unclassified)

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Beyne, Edgar.—*Sur la Présence de Composés de Strontium dans les Blendes;* [The Presence of Strontium Compounds in Blendes].—Bull. Soc. Chimique Belg., May, 1913; p 159; 1200 w; 75c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Goy, S.—*Die gewichtsanalytische Bestimmung des Calciums als Calciumoxalat.* [The gravimetric determination of calcium as calcium oxalate.] (Communication from the Agricultural Chemical Inst. of the University of Königsberg).—Chemiker-Ztg., Nov. 1, 1913; p 1337; 1000 w; 35c.

Hirshberg, L. K.—*Chemical and Metallurgical Miscellany.*—Mg. & Eng. World, Dec. 13, 1913; p 1067; 2300 w; 10c.

Lów, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

Moldenhauer, W., and Anderson, J.—*Uber die Elektrolytische Darstellung von Calciumlegierungen und Calcium;* [Electrolytic Preparation of Calcium and Its Alloys].—Zeit. Elektrochemie, June 1, 1913; p 444; 2000 w*; 45c.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Phalen, W. C.—*Celestite Deposits in California and Arizona.*—Washington, D. C., Bulletin 540-T, U. S. Geol. Survey; 15 pp*.

Phalen, W. C.—*Strontium Minerals in the United States.* (U. S. Geol. Surv. monograph; abstract).—Mg. Sci., Sept., 1913; p 168; 1300 w; 35c.

Precht, H.—*Berechnung der Chlermagnesiummenge, welche bei der Verarbeitung von Kaliroh salzen als Endlauge gewonnen*

wird; [Calculation of the amount of magnesium which is obtained as end liquor in the treatment of crude potash salts].—Kali, July 1, 1913; p 319; 1400 w; 35c.

Pulsifer, H. B.—*The Microstructure of Metals.*—Chem. Engr., June, 1913; p 228; 5500 w*; 35c.

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Wirth, Fritz.—*Ueber die Gewinnung der Thorerde aus dem Monazitsand mit Hilfe der Unterphosphorsäure sowie über den Nachweis des Cers mit einer alkalischen Ammontartratlösung.* [On the recovery of thoria from monazite sand with the aid of hypo-phosphoric acid; also on the detection of cerium with an alkaline ammonium-nitrate solution].—Chemiker-Ztg., June 28, 1913; p 773; 800 w; 35c.

Ziegler, Victor.—*Lithia Deposits of the Black Hills, South Dakota.*—E. & M. J., Dec. 6, 1913; p 1053; 3300 w*; 25c.

——— *Bergbau und Eisenindustrie Schwedens im Jahre,* 1912. [Mining and iron industry of Sweden in 1912].—Glückauf, Oct. 25, 1913; p 1772; 4500 w; 50s.

——— *Die Berg und Hüttenwerksproduktion Oesterreichs im Jahre* 1912. [The mining and metallurgical production of Austria in 1912].—Montanistische Rundschau, Oct. 16, 1913; p 981; 2500 w; 35c.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die elektromagnetische Aufbereitung mit besonderer Berücksichtingung des Erzscheiders Bauart Ullrich.* [Electromagnetic ore preparation with special reference to the Ullrich ore separator].—Montanist. Rundschau, Nov. 16, 1913; p 1095; 2000 w*; 35c

——— *Die Bergwerksindustrie und Bergverwaltung Preussens im Jahre* 1912. [Prussia's mining industry and mine administration in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 403; 20,000 w; $1.50.

——— *Die Bergwerksindustrie in Frankreich und Algier in den Jahren* 1910 *und* 1911. [The mining industry in France and Algeria in 1910 and 1911]. (From report of Minister of Public Works, France).—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3; 1913; p 382; 4500 w; $1.50.

——— *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15, 1913; p 346; 800 w; 35c.

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

——— *Gewinnung des Preussischen Staates im Jahre,* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

———. *Output of Coal and Other Minerals in Great Britain in* 1912.—Ir. & Coal Tr. Rev., April 11, 1913; p 565; 2000 w; 35c.

——— *Préparation Electrolytique des Métaux Alcalins.* [Electrolytic preparation of alkali metals] (Translated from Elektrochem. Zts.).—Jnl. du Four Electriq., Oct. 1, 1913; p 419; 900 w*; 35c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912]. —See under Lead.

NON-METALS.

CHAPTER VIII.

FUELS AND BY-PRODUCTS.

COAL

Coal Fields and Mining

Alford, Newell G.—*A Central Power Station in West Kentucky.*—Coal Age, Nov. 8, 1913; p 698; 3800 w*; 20c.

Alford, Alfred G.—*Problems in Mining Coal in Western Kentucky.* (Paper read before Kentucky Mg. Inst.).—Coal & Coke Opr., Dec. 11, 1913; p 107; 3300 w; 20c.

Allard, A. G.—*Concrete in Coal Mine Construction.* (Paper read at fuel conference, Urbana, Ill.; abstract).—Coal Age, June 14, 1913; p 918; 1300 w*; 20c.

Ambrose, John E.—*Mining Natural Coke and Coal in Virginia.*—Coal Age, Nov. 8, 1913; p 686; 1400 w*; 25c.

Ambrose, John E.—*Shotfiring and Watering Systems in Utah Mines.*—Coal Age, Oct. 11, 1913; p 536; 2400 w*; 20c.

Ambrose, John E.—*Working Thick Highly Inclined Coal Seams.*—Coal Age, Sept. 27, 1913; p 442; 1100 w*; 20c.

Anderson, Arvid R.—*The Storage Battery Locomotive in Coal Mines.*—Colly. Engr., Oct., 1913; p 146; 5000 w*; 35c.

Archbald, Hugh.—*Mining Low Seams of Anthracite.*—Coal Age, Oct. 25, 1913; p 609; 2000 w*; 20c.

Aust, J. F.—*Practical Notes on Colliery Electrical Equipment.* (Paper read before Lancashire Branch Assn. Mg. Elec. Engrs.).—Iron & Coal Trade Rev., Dec. 5, 1913; p 886; 2500 w*; 35c.

Ball, V.—*The Coal Fields of India.*—Iron & Coal Tr. Rev., London, July 25, 1913; p 121; 3500 w*; 35c.

Barrois, Ch.—*Notes sur Quelques Sondages Profonds Exécutée entre Douai et Arras par Compagnie de Châtillon-Commentry.* [Note on some deep bore holes by the Châtillon-Commentry Co., between Douai and Arras, France] (From Annales Soc. Géol. du Nord.).—Bull. Soc. Amicale Douai, Aug. 10, 1913; p 545; 2100 w; 35c.

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Beard, J. T.—*Mine Inspectors' Institute, U. S. A.*—Coal Age, June 21, 1913; p 962; 2200 w. 20c.

Beard, J. T.—*Mixed Lights in Coal Mining.*—Coal Age, June 14, 1913; p 927; 1300 w; 20c.

Becker, Richard.—*Die Entstehung der natürlichen Steinkohle nach Versuchen von Dr. Bergius, Hannover.* [The origin of natural coal according to experiments of Dr. Bergius, Hannover, Germany].—Technische Blätter, Aug. 31, 1913; p 288; 900 w; 35c.

Bentham, John.—*Testing Transformers for Colliery Work.* (Paper read before Yorkshire Branch Assn. Mg. Elec. Engrs.).—Iron & Coal Trade Rev., Dec. 5, 1913; p 288; 4800 w; 35c.

Bergius, F.—*Theory Regarding Process of Coal Formation.* (Translation from Montanistische Rundschau).—Coal Age, Nov. 29, 1913; 2000 w; 20c.

Bickards, A. E.—*Power Problem in Bituminous Coal Mining.* (Abstract from Electrical Journal, Pittsburgh).—Coal & Coke Opr., Nov. 27, 1913; p 71; 2300 w; 25c.

Blair, Axel, Jr.—*Unwatering a Flooded Mine.*—Coal Age, Nov. 15, 1913; p 747; 650 w; 20c.

Bolleau, John W.—*Geology of the Pittsburgh Coal Beds.* (Abstract of paper read before Coal Mg. Inst. of Am.).—C. & C. Opr., June 19, 1913; p 163; 1800 w; 20c.

Böker, H. E.—*Die Stein- und Braunkohlenvorräte des Deutschen Reiches.* [The coal and lignite reserves of the German Empire].—Glückauf, June 28, 1913; p 1045; 10,000 w*; July 12; p 1086; 9000 w*; $1.

Brandt, Wm. Van C.—*Storage Batteries for Mine Locomotives.*—Coal Age, Dec. 6, 1913; p 848; 1200 w; 20c.

Briggs, Alfred.—*Wire Rope Haulage in Coal Mines.*—Colly. Engr., Oct., 1913; p 173; 350 w; 35c.

Brown, Geo. M.—*The McAlester Coal Field in Oklahoma.*—Coal Age, Aug. 2, 1913; p 153; 2600 w*; 20c.

Botsford, H. L.—*A Method of Mining Flatly Pitching Ore Deposits.*—Mex. Mg. Jnl., June, 1913; p 296; 2000 w*; 25c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.*—Memoir No. 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Calloway, A. W.—*Bituminous Coal in Pennsylvania.* (Paper read before the Shakespeare Club of Indiana, Pa.; abstract).—Coal Tr. Bull., July 15, 1913; p 27; 2500 w; 25c. C. & C. Opr., July 17, 1913; p 254; 2500 w; 25c.

Clapp, Charles H.—*The Coal Deposits at Nanaimo, Vancouver Island, B. C.* (Extracts from Guide Book No. 9, Canadian Geol. Surv.).—Canadian Mg. Jnl., Sept. 15, 1913; p 586; 1500 w; 35c.

Cornet, F. C.—*Proposed Method of Longwall Mining.*—Coal Age, July 26, 1913; p 120; 3300 w*; 20c.

Crane, W. R.—*Coal Resources of Alaska.* (Paper read before Am. Mg. Cong.).—Black Diam., Nov. 15, 1913; p 20; 2700 w; 25c.

Crane, W. R.—*The Matanuska River Coal Field by Districts.*—Coal Age, Aug. 2, 1913; p 148; 4000 w*; 20c.

Dalzell, S. M.—*Long Wall Mining by the Spring Valley Coal Co.* (Paper read before fuel conference at Urbana, Ill.).—Bl. Diam., June 7, 1913; p 16; 2500 w*; 30c.

Dean, Samuel.—*Coal Mining in the United States, with Special Reference to the Treatment of Coal Dust and Haulage by Electric Locomotives.* (Abstract of paper read before N. of England Inst. of Mg. & Mech. Engrs.).—Ir. & C. Tr. Rev., London, Aug. 8, 1913; p 196; 2800 w; 35c.

Dean, Samuel.—*Retreating Longwall Mining Methods.*—Coal Age, Nov. 15, 1913; p 722; 2300 w*; 20c.

Dixon, F. M.—*Reinforced Concrete in Mines.* (Paper read before S. Staffordshire and Warwickshire Inst. Mg. Engrs.; abstract).—Ir. & C. Tr. Rev., London, June 20, 1913; p 997; 2200 w; 35c.

Easton, W. H.—*Electricity vs. Steam for Winches.*—Coal Age, Dec. 27, 1913; p 976; 700 w*; 20c.

Edwards, J. C., and Gibb, H. M.—*An Ideal Method of Coal Mining.*—Coll'y Engr., July, 1913; p 665; 3500 w*; 35c.

Elliott, R. W.—*A Recent Utah Coal Mine Development.*—Coal Age, July 26, 1913; p 112; 4000 w*; 20c.

Elwood W. F.—*Stray Electric Currents in Coal Mines.*. (Paper read before Coal Mg. Inst. of Am.).—Coal & Coke Opr., Dec. 11, 1913; p 105; 2200 w*; 20c.

Evans, A. W.—*Mining Plant of the Petros Coal Co., Tennessee.*—Colly. Engr., p 153; 1800 w*; 35c.

Evans, George Watkin.—*Working an Inclined Coal Bed.* [A description of a method of working a pitching seam at Coal Creek Mine, New Castle, Washington].—Colliery Engr., Aug., 1913; p 18; 2700 w*; 35c.

Fleck, Dr.—*Zur Geschichte des Bergbaues in Böhmen.* [Concerning the history of mining in Bohemia].—Glückauf, July 19, 1913; p 1136; 6200 w; 50c.

Foster, J. R.—*Benham Coke Works, Wisconsin Steel Co.*—Coal Age, June 28, 1913; p 996; 900 w*; 20c.

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand; 142 pp*.

Gage, Earle William.—*Mining Two Coal Seams Under the Pacific Ocean.*—Bl. Diam., Oct. 25, 1913; p 17; 1600 w*; 25c.

Garcia, John A.—*Development and Operation of a Bituminous Mine.* (Abstract of paper read before Int. Ry. Fuel Assn.).—Bl. Diam., June 28, 1913; p 92; 3000 w*; 30c.

Gaskill, J. C.—*Common-Sense Mine Ventilation.* (Paper read before W. Va. Coal Mg. Inst.; abstract).—Coal Tr. Bull., Aug. 1, 1913; p 29; 25c.

Gerber, Dwight.—*Method of Supplying Preheated and Humidified Ventilating Air.*—Colly. Engr., Nov., 1913; p 229; 2500 w*; 35c.

Godfrey, Amos.—*Notes on the Groundhog Coal Field, B. C.*—Coal Age, June 28, 1913; p 993; 1500 w*; 20c.

Gordon, J. M.—*Exhaust Steam and Its Utilization at Collieries and Mines.* (Abstract of paper read before Canadian Mg. Inst.).—Mech. Wld., London, June 27, 1913; p 309; 3000 w*; 35c.

Gothan, W.—*Das oberschlesische Steinkohlenbecken im Vergleich mit andern Becken Mitteleuropas auf Grund der Steinkohlenfloren.* [The Upper Silesian coal basins in comparison with other basins of middle Europe based on the coal flora).—Glückauf, Aug. 30, 1913; p 1366; 1000 w; 50c.

Gradenwitz, A.—*A Chinese Coal Cableway.*—Coal Age, Nov. 8, 1913; p 688; 1150 w*; 25c.

Greenwell, George Harold—*Der Kohlendistrikt von Iherria (Indien) und siene zukünftige Entwickelung;* [The Iharria coal district (India) and its future development] (Abstract translation from paper read before North of England Inst. Mg. & Mech. Engrs.).—Technische Blatter, July 19, 1913; p 225; 1100 w; 35c.

Gregory, John.—*Use of Concrete at Collieries.* (Paper read before North Staffordshire Inst. of Mg. & Met. Engrs.).—Colly. Engr., London, Aug. 29, 1913; p 293; 2700 w; 35c. Mg. Engg., London, Oct., 1913; 2200 w; 35c.

Gregory, W. M.—*Geological Report on Arenac County, Michigan.*—Pub. 11, Geol. Series 8. Michigan Geological & Biological Survey; 146 pp*.

Gwyn-Williams, R. H.—*Mining in Katanga, Central Africa.*—Mg. Jnl., London, Aug. 30, 1913; p 839; 3500 w*; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hall, J. J., and Booth, F. L.—*Ashington and Ellington Collieries, Great Britain.*—Iron & Coal Trade Rev., London, Nov. 21, 1913; p 795; 9500 w*; 35c.

Hann, Edmund L.—*The Sinking and Equipment of Bedwas Colliery.* (Paper read before S. Wales Inst. of Engrs.; abstract).—Colly. Guard., London, Sept. 5, 1913; p 473; 6500 w*; 35c. I. & C. Tr. Rev., London, Sept. 12, 1913; p 415; 7000 w*; 35c.

Hayden, H. H.—*The Mineral Production of India in* 1912. (Abstract of India Geol. Surv. report).—Colly. Guard., Nov. 14, 1913; p 1012; 3000 w; 35c.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden.* [Mining in the grand duchy of Baden, Germany].—Glückauf, June 21, 1913; p 974; 4800 w*; 50c.

Hennen, Ray V., and Reger, David B.—*Detailed Geological Surveys of Marion, Monongahela and Taylor Counties, West Virginia.*—Report, W. Va. Geol. Survey; 844 pp* and maps; $2.50.

Herbst, Prof.—*Die Gefäss-Schachtförderung (Skipförderung) und der deutsche Bergbau.* [Skip hoisting and German mining].—Glückauf, Aug. 2, 1913; p 1209; 5000 w*; Aug. 9; p 1245; 6000 w*; $1.

Hesse, A. W.—*Pillar-Drawing Methods in Fairmont Region.*—Coal Age, Nov. 22, 1913; 1150 w*; 20c.

Higgins, Will C.—*The Spring Canyon Coal Co., Utah.*—S. L. Mg. Rev., June 30, 1913; p 9; 3500 w*; 25c.

Hirschberg, Charles A.—*Shaft Sinking under Difficulties.*—Coal Age, Nov. 29, 1913; p 803; 1400 w*; 20c.

Hodges, R. O.—*Gasoline Motors in Coal Mines.* (Abstract of paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., July 3, 1913; p 207; 7500 w; 20c.

Hudson, Joseph G. S.—*Sections of the Sydney Coal Fields, Cape Breton, Special*

Edition, International Geological Congress, Twelfth Session, 1913.—Canada. Dep. of Mines, Mines Branch; 6 pp, maps and plates; 50c. Abstract in Canadian Engr., Aug. 14, 1913; p 295; 1700 w; 35c.

Illgen and Wollenhaupt.—*Die Schachtanlage VIII/IX der Zeche Constantin der Grosse;* [The shaft plant VIII/IX of the Constantine the Great Mine (Germany)] (Last part; deals with the coking plant).—Glückauf, May 31, 1913; p 845; 2000 w*; 50c.

Iremonger, R. S.—*Some Notes on Mine Lighting.*—Coal Age, Dec. 6, 1913; p 845; 1600 w*; 20c.

Jackson, H. D.—*Use of Purchased Power in Coal Mines.*—Coal Age, June 28, 1913; p 982; 2500 w*; 20c.

James, W. Ewart, and Hall, Geo. W.—*The Carbon Coal Co.'s Central Plant.*—Coal Age, Aug. 9, 1913; p 200; 3000 w*; 20c.

Jenks, J. S.—*Central Power Station for Mines.* (Paper read before Pittsburgh meeting Am. Inst. Elec. Engrs.; abstract).—Coal Tr. Bull., June 2, 1913; 2300 w; 25c.

Jiminez, Carlos.—*Estadistica Minera del Peru*, 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Jones, W. R.—*The Electrical Equipment of a Modern Coal Mine.*—Coal Age, Dec. 6, 1913; p 843; 1500 w*; 20c.

Jungst, Ernst. —*Die Kohlenversorgung der Schweiz.* [The coal supply of Switzerland].—Glückauf, Nov. 8, 1913; p 1861; 7400 w; 50c.

Jungst, Ernst.—*Holland's Steinkohlengewinnung und Kohlenversorgung.* [Holland's coal production coal supply].—Glückauf, Nov. 1, 1913; p 1818; 6500 w; 50c.

Kanda, Reiji.—*Bujun Coal Mine in Manchuria.*—M. & S. P., Nov. 29, 1913; p 856; 500 w*; 20c.

King, A. J.—*Gasoline Motors in Coal Mines.*—Colly. Engr., Oct., 1913; p 164; 1600 w*; 35c.

King, A. F.—*Use of Gasoline Motors in Coal Mines.* (Paper read before W. Va. Coal Mg. Inst.; abstract).—M. & S. P., Sept. 20, 1913; p 463; 1500 w; 20c.

Krebs, C. E., and Teets, D. D., Jr.—*Detailed Geological Surveys of Cabell, Wayne and Lincoln Counties, West Virginia.*—Report, W. Va. Geol. Survey; 843 pp* and maps; $2.

Kreuzkam, Dr.—*Die Lage der Braunkohlenindustrie.* [The status of the lignite industry].—Kali, Erz & Kohle, July 5, 1913; p 665; 1200 w; 35c.

Lakes, Arthur.—*The Coal Fields of Western Canada.*—Colliery Engr., Aug., 1913; p 11; 2500 w*; 35c.

Lawson, A. C.—*Gold and Coal Mines of Nova Scotia.*—Bull. 65, Mg. & Met. Soc. of Am., Oct. 31, 1913; p 281; 3 pp; 35c.

Llewelyn, Lee.—*The Atlas Co.'s Plant at Burgettstown, Penn.*—Coal Age, Sept. 6, 1913; p 334; 2000 w*; Sept. 13, 1913; p 365; 3000 w*; 40c.

Martell, Paul.—*Der Bergbau in Holland.* [Mining in Holland].—Bergbau, July 24, 1913; p 481; 1000 w; 35c.

Matthews, Thomas J.—*Notes on Electricity in Mines.*—Mg. Engg., London, Aug., 1913; p 156; 2800 w; 35c.

Mavor, Sam.—*Underground Conveying.* (Paper read before South Wales Inst. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 1221; 3000 w*; 35c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McKee, W. M.—*Exploring Coal Measures with the Diamond Core Drill.*—Coal Tr. Bull., Nov. 1, 1913; p 46; 1500 w*; 25c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McNeil, John C.—*The Brush Creek Coal Field, Kentucky.*—Coal Age, Nov. 8, 1913; p 687; 1000 w*; 25c.

Meguire, K. U.—*Kentucky Mines and Workmen's Compensation.* (Abstract of paper read before Kentucky Mg. Inst.).—Coal Age, June 14, 1913; p 915; 3000 w; 20c. Coal & Coke Opr., June 12, 1913; p 141; 3200 w; 20c.

Meyer, Kurt.—*Die Spülversatzanlage und die Klärung des Spülwassers auf dem Bahnschacht der kons. Fürstensteiner Gruben.* [The flushing plant and the clarification of the flushing water at the hoisting shaft of the Consolidated Fürstenstein mine, Germany].—Glückauf, Aug. 30, 1913; p 1391; 2500 w*; 50c.

Miller, B. L.—*Tertiary Coal Fields of the Rio Grande.*—Coal Age, Aug. 23, 1913; p 260; 3000 w*; 20c.

Morris, F. G.—*Slope Haulage at Bayreton, Alabama.*—Colly. Engr., Oct., 1913; p 155; 1800 w*; 35c.

Morrow, John D. A.—*Coal Mining: United States.*—Bull., Thirteenth Census of U. S., 1910, Bureau of the Census, U. S. Dep. of Commerce; 55 pp.

Nelson, Wilbur A.—*Mineral Products Along the Tennessee Central Railroad, Tennessee.*—Resources of Tenn., July, 1913; p 137; 24 pp*; 25c.

Nesbitt, C. H.—*The Value of a Safety Inspector and Instructor for Each Coal Mine.*—Coal Age, Aug. 9, 1913; p 207; 1900 w; 20c.

Parker, E. W.—*Arkansas as a Mineral Producer.* (Abstract of Survey report).—Mg. & Eng. World, Nov. 8, 1913; p 832; 300 w; 10c.

Parker, E. W.—*Coal Output of the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 6, 1913; p 425; 700 w; 10c.

Parker, E. W.—*Ohio's Large Mineral Production in* 1912. (Abstract from Min. Res. of U. S., U. S. Geol. Surv.) —Mg. & Eng. World, Nov. 29, 1913; p 979; 350 w; 10c.

Parker, Edward W.—*Production of Coal in the United States from* 1814 *to the Close of* 1912.—Table, U. S. Geological Survey.

Parker, Edward W.—*The Cost and Profit of Coal Mining.* (Paper read before Am. Mg. Cong.).—C. & C. Opr., Oct. 23, 1913; p 579; 3000 w*; 20c.

Parker, Edward W.—*The Production of Anthracite in* 1912.—Adv. chap. Min. Resources of the U. S., U. S. Geol. Surv., 19 pp.

Parker, Edward W.—*The Production of Coal in* 1912.—Advance chapter from Mineral Resources of U. S.; 219 pp*.

Parker, E. W.—*Utah Coal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, July 5, 1913; p 11; 700 w; 10c.

Patchell, W. H.—*Application of Electric Power to Mines and Heavy Industries.* —New York, D. Van Nostrand Co.; 333 pp*; $4 (book).

Peyerimhoff, M. de.—*Le Charbon et Son Industrie en France.* [Coal and the coal industry in France].—Bull. Soc. Amicale Douai, July 25, 1913; p 507; 1500 w; 35c.

Pitaval, Robert.—*Les Réserves Houillères de la France.* [The coal reserves of

Pitaval, Robert.—*Reserves Houillères du Monde.* [Coal reserves of the world].—Echo des Mines, Oct. 9, 1913; p 1026; 1500 w; 35c.

Pitkin, S. H.—*Rope-Haulage Systems.*—Colly. Engr., Oct., 1913; p 174; 600 w*; 35c.

Pommer, Bergassessor.—*Die mechanische Abbauförderung beim Steinkohlenbergbau im Oberbergamtsbezirk Dortmund.* [The mechanical mine conveying in coal mining in the Dortmund mining district].—Zts. Berg, Hütten & Salinew., Vol. 61, Part 2, 1913; p 254; 8000 w*; $1.50.

Price, William Z.—*Compressed-Air Mine Haulage.*—Colly. Engr., Oct., 1913; p 142; 3000 w*; 35c.

Price, William Z.—*Rope Haulage at Vesta No. 4 Mine, Pennsylvania.*—Colly. Engr., Oct., 1913; p 135; 3600 w*; 35c.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp.

Putz, O.—*Advantages of Oval Over Circular Pipes for Hydraulic Gob Stowing.*—Iron & Coal Tr. Rev., London, Nov. 7, 1913; p 720; 8000 w*; 35c.

Randolph, Beverly.—*Animal Haulage in Coal Mines.*—Colly. Engr., Oct., 1913; p 139; 3200 w*; 35c.

Recktenwald, J.—*Unterirdische Förderung beim Steinkohlenbergbau.* [Underground haulage in coal mining].—Fördertechnik, Aug., 1913; p 183; 1800 w; 65c.

Reeder, E. C.—*An Oklahoma Water Hoist.* (Means employed to remove water from an old coal mine).—Coal Age, June 28, 1913; 2000 w*; 20c.

Renier, Armand.—*Les Gisements Houillers de la Belgique.* [The coal deposits of France].—L'Echo des Mines, July 31, 1913; p 850; 800 w; Aug. 7; p 866; 900 w; 70c. Belgium].—Annales des Mines Belgique, 1913, Vol. 18, No. 3; p 755; 6500 w*; 65c.

Reynolds, Sim G.—*A Premier Operation in Ohio.*—Coal Age, Dec. 27, 1913; p 967; 1800 w*; 20c.

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Richter, G.—*Die Verwendung von Freihanddrehbohrmaschinen mit Pressluftantrieb bei der Kohlengewinnung in Oberschlesien.* [The use of free-hand rotary drills operated by compressed air in coal mining in Upper Silesia].—Glückauf, Aug. 30, 1913; p 1396; 2500 w*; 50c.

Richter, G.—*Betriebsergebnisse einiger Schüttelrutschehanlagen auf oberschlesischen Steinkohlenbergwerken.* [Operating results of some shaking-conveyor installations at Upper Silesian coal mines].—Glückauf, Oct. 18, 1913; p 1717; 3600 w*; 50c.

Robertson, Wm. Fleet.—*Coal Mining in British Columbia.* (Extract from annual report of Minister of Mines, 1912).—Canadian Mg. Jnl., Nov. 1, 1913; p 671; 2200 w; 35c.

Schoeller, W. R.—*Ore Deposits of Hu-nan and Hu-peh, China.*—Jnl. Soc. Chem. Ind., May 31, 1913; p 517; 3000 w; 65c.

Scholz, Carl.—*Gasoline Mine Locomotives in Coal Mining.*—Colly. Engr., Oct., 1913; p 153; 1800 w*; 35c.

Scholz, Carl.—*Steel in Mine Construction; Advantages of Increased Use of Steel Both Above and Below Ground, and Some New Methods of Application.* (Address at dedication of Mg. Laboratories at Univ. of Ill.).—Colliery Engr., Aug., 1913; p 30; 2000 w*; 35c.

Schroeder, J. A.—*Hyatt Roller Bearings Applied to Mine Cars.*—Colly. Engr., Oct., 1913; p 173; 650 w*; 35c.

Scobee, Barry E.—*Strip Pit (Coal) Mining in Kansas.*—Coal Age., Oct. 25, 1913; p 607; 1300 w*; 20c.

Seelye, Elwyn E., and Shurick, A. T.—*Colliery Practice in Concreting.* (Third article).—Coal Age, June 14, 1913; p 910; 2800 w*; 20c.

Sonntag, Bergassessor.—*Die Entwässerung der Braunkohlenlagerstätten durch Flachbohrungen.* [The unwatering of lignite deposits by flat borings].—Technische Blätter, Aug. 31, 1913; p 281; 2100 w; 35c; Sept. 13; p 349; 2200 w*; 70c.

Spicer, John E.—*Submarine Coal Mining.* —Coal Age, Sept. 27, 1913; p 444; 1300 w*; 20c.

Stebinger, Eugene.—*The Coal Fields of Montana.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2329; 33 pp*; 35c.

Strahan, A.—*The Coal Resources of Great Britain.* (Abstract of chapter contributed to the "Coal Resources of the World," published by Morang & Co., Toronto).—I. & C. Tr. Rev., Sept. 19, 1913; p 451; 9000 w; 35c.

Strohm, R. T.—*Mechanics of Coal Mining.*—Coll'y Engr., July, 1913; p 713; 1700 w*; Sept., 1913; p 114; 2600 w*; Dec., 1913; p 307; 1600 w*; $1.05.

Taffanel, M. J.—*Neue Erfahrungen über den Steinkohlenstaub und die Mittel, seine Gefahren zu bekämpfen.* [Recent experiences with coal dust and means for combating its dangers] (Translated from Annales des Mines).—Zts. Zentral Verbd. Bergbau Betriebsl., Oct. 1, 1913; p 615; 1200 w; Oct. 15; p 654; 1800 w*; Nov. 15, 1913; p 728; 2200 w*; Dec. 1; p 767; 300 w; $1.40.

Tanasescu, J., and Porucik, T.—*Die Statistik der rumänischen Bergwerksprodukte: Erdöl, Erdgas, Kohle und Salz;* [Statistics of the Roumanian mine products: Petroleum, natural gas, coal and salt] (From l'Annuaire de l'Institut Géologique de Roumanie).—Zts. Internat. Vereines Bohringenieure, June 15, 1913; p 133; 2000 w; 35c.

Taylor, James.—*The Madison Coal Corporation Mine No. 9, Illinois.*—Coal Age, Nov. 1, 1913; p 640; 2300 w*; 25c.

Taylor, Raleigh C.—*The Hess Dustless Mining Machine.* (Paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., June 26, 1913; p 185; 3000 w*; 20c.

Thom, W. T.—*Record Mineral Production of the United States in 1912.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Thompson, A. E.—*Practical Mule Haulage in Coal Mines.*—Colly. Engr., Oct., 1913; p 166; 2000 w; 35c.

Thompson, Philip.—*New Coal Fields in Western Canada.*—Coal Age, June 14, 1913; p 912; 900 w; 20c.

Victor, David.—*How to Handle a Dry or Dusty Mine.*—Coll'y Engr., Sept., 1913; p 99; 3000 w; 35c.

Walker, H.—*Note on the Geological Resurvey of the Raniganj Coal Field, Bengal, India.*—Trans. Mg. & Geol. Soc. of India, May, 1913; p 226; 54 pp; $1.25.

Walker, Sydney F.—*The Cementation Process for Sinking Shafts.*—Colly. Engr., Nov., 1913; p 234; 1600 w*; 35c.

Watson, Thomas L.—*Mineral Production of Virginia in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 928; 600 w; 10c.

Watts, Ernest.—*Irregularities Met With in Coal Seams.*—Mg. Engg., London, Sept., 1913; p 187; 1500 w*; 35c.

Webb, H. S.—*Electricity in Coal Mines.*—Coll'y Engr., July, 1913; p 715; 2500 w*; p 715; 2500 w*; Sept., 1913; p 116; 1700 w*; 75c.

Whitcomb, W. C.—*The Use of Gasoline Motors in Coal Mines.* Paper read before Kentucky Mg. Inst.).—Bl. Diam., Dec. 13, 1913; p 23; 2100 w; 30c.

Willert, Bergassessor.—*Geologische Skizze vom Saarrevier.* [Geological sketch of the Saar district, Germany].—Bergbau, July 17, 1913; p 465; 3700 w*; 35c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14. 1913; p 529; 2200 w; 35c.

Williams, Noah T.—*Geology of Shansi and the Coal Industry of North China.* (Paper read before Manchester Geol. & Mg. Soc.; abstract).—Coal Tr. Bull., June 2, 1913; p 52; 2800 w; 25c. Sci. & Art of Mg., May 24, 1913; p 481; 1400 w; 35c.

Wunderlich, G.—*Erschütterungen und Detonationen im Kladnoer Kohlenrevier;* [Tremblings and detonations in the Kladnoer coal district, Bohemia].—Montanist. Rundschau, May 16, 1913; p 445; 3200 w; 35c.

———. *A New System of Pit Propping.*—Coll'y Guard., June 27, 1913; p 1385; 1000 w*; 35c.

——— *A New Type of Haulage Engine.*—Iron & Coal Tr. Rev., Oct. 31, 1913; p 683; 1200 w*; 35c.

———. *A Notable Scottish Colliery.* (Newbattle Abbey).—Coll'y Engr., July, 1913; p 671; 3800 w*; 35c.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarized by E. Jacobs).—B. C. Mg. Exch., July, 1913; p 5; 8 pp*; 35c.

———. *Antarctic Minerals.*—M. & S. P., June 21, 1913; p 953; 500 w; 20c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Austrian Mining in* 1912.—Mg. Jnl., London, Oct. 4, 1913; p 935; 2300 w; 35c.

——— *Bergbau in Holland.* [Mining in Holland].—Berg & Hüttenmännische Rundschau, Nov. 5, 1913; p 35; 900 w; 35c.

——— *Bergbau und Eisenindustrie Schwedens im Jahre,* 1912. [Mining and iron industry of Sweden in 1912].—Glückauf, Oct. 25, 1913; p 1712; 4500 w; 50s.

———. *Bericht des Vorstandes des Zentralvereins der Bergwerksbesitzer Oesterreichs;* [Report of the Committee of the Austrian Coal Producers].—Montanistische Rundschau; June 1, 1913; p 493; 21 pp*; 35c.

———. *Bericht des Rheinisch-Westfälischen Kohlen-Syndikats über das Geschäftsjahr* 1912; [Abstract Report of the Rhine-Westphalia Coal Syndicate for 1912].—Glückauf, May 24, 1913; p 825; 2500 w; 50c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *Coal and Iron in Manchuria.*—E. & M. J., Dec. 27, 1913; p 1204; 400 w; 25c.

———. *Coal Mines Under the Sea.*—Colliery Engr., Aug., 1913; p 17; 1000 w; 35c.

——— *Coal Mining in India.* (Abstract from Coal Fields of India).—Mg. Engg., London, Sept., 1913; p 178; 1500 w; 35c.

———. *Concrete Shaft Lining* (Translated from Annales des Mines de Belgique).—Coal Age, June 21, 1913; p 950; 200 w*; 20c.

——— *Contrôle des Salaires des ouvriers Mineurs du Département du Nord.* [Wages of mine workers in the department of the North, France].—Bull. Soc. Amicale Douai, Sept. 10, 1913; p 595; 200 w; 35c.

———. *Coppée By-product Coke-Oven Installation at Lancaster's Steam Coal Collieries, Cwmtillery, South Wales.*—I. & C. Tr. Rev., June 27, 1913; p 1033; 2500 w*; 35c.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

———. *Der Bergbau in China, Konsulatbezirk Shanghei im Jahre* 1911; [Mining in China, Shanghai consular district, in 1911] (First part).—Montan-Ztg., June 15, 1913; p 225; 3500 w; 35c.

——— *Der Bergbau Japans.* [Japan's mining].—Montan & Metallindustrie-Ztg., Sept. 21, 1913; p 4; 600 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die belgische Bergwerksindustrie im Jahre,* 1912. [The Belgian mining industry in 1912].—Glückauf, Nov. 20, 1913; p 1981; 2400 w; 50c.

——— *Die Berg und Hüttenwerksproduktion Oesterreichs im Jahre* 1912. [The mining and metallurgical production of Austria in 1912].—Montanistische Rundschau, Oct. 16, 1913; p 981; 2500 w; 35c.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die Bergwerksindustrie und Bergverwaltung Preussens im Jahre* 1912. [Prussia's mining industry and mine administration in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 403; 20,000 w; $1.50.

——— *Die Bergwerksindustrie in Frankreich und Algier in den Jahren* 1910 *und* 1911. [The mining industry in France and Algeria in 1910 and 1911]. (From report of Minister of Public Works, France).—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3; 1913; p 382; 4500 w; $1.50.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Die Entwickelung der niederrheinisch-westfälischen Steinkohlenzechen im 1. Vierteljahr* 1913. [The development of the lower-Rhein-Westphalian coal mines in the first quarter of 1913].—Glückauf, June 28, 1913; p 1023; 8000 w; 50c.

——— *Die Entwickelung der niederrheinisch-westfälischen Steinkohlenzechen im 2. Vierteljahr* 1913. [The development of the lower Rhein-Westphalian coal mines in the second quarter of 1913].—Glückauf, Aug. 23, 1913; p 1335; 7000 w; 50c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

——— *Die Kohlenzorräte des Deutschen Reiches.* [The coal reserves of the German Empire].—Kohle & Erz, Aug. 4, 1913; p 774; 1000 w; 35c.

——— *Die Kohlenvorräte Frankreichs.* [The coal reserves of France].—Bergwerks-Ztg., Aug. 20, 1913; p 1; 1600 w; 35c.

——— *Die Mineningustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

——— *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15. 1913; p 346; 800 w; 35c.

———. *Die oberschlesische Bergwerks- und Hütteningustrie im Jahre* 1912; [The Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

——— *Die rheinische Braunkohleningustrie im Jahre* 1912. [The Rhenish lignite industry in 1912].—Bergwerks-Ztg., July 29, 1913; p 1; 1600 w; 35c.

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

——— *Electrical Plant at the New Markham Pits, Great Britain.*—Iron & Coal Tr. Rev., Oct. 31, 1913; p 681; 2000 w*; 35c.

——— *El Tranvía Aéreo de Gran Capacidad del Puerto de Savona.* [The aerial tramway of large capacity at Savona, Spain].—Revista Minera, Aug. 24, 1913; p 409; 700 w*; 35c.

———. *Exhaust Steam at Scottish Collieries.*—Colly. Guard., July 4, 1913; p 13; 800 w*; 35c.

———. *Four-Decked Cage at St. Michael, Pa.*—Colliery Engr., Aug., 1913; p 5; 2200 w*; 35c.

——— *Gewinnung der Bergwerks des Preussischen Staates im Jahre,* 1912. [Production of the mines of Prussia in 1912].—Glückhauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *Hand Hammer Drills in Shaft Sinking.*—Coal Age, Aug. 16, 1913; p 231; 1500 w*; 20c.

———. *Hoisting at a Chinese Mine.*—M. & S. P., July 26, 1913; p 137; 350 w*; 20c.

——— *Illinois as a Mineral Producer.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 450 w; 10c.

———. *Illinois Coal Statistics.*—Mg. & Eng. World, Oct. 4, 1913; p 588; 500 w; 10c.

——— *India's Mineral Production.* (Abstract of India Geol. Surv. report).—Mg. Wld. & Engg. Rec., London, Sept. 27, 1913; p 376; 1800 w; 35c.

——— *Indian Mines in* 1912. (Abstract from India Geol. Surv. report).—Mg. Jnl., Oct. 18, 1913; p 982; 1600 w; 35c.

——— *Italian Mineral and Metallurgical Industries in* 1912. (Abstract from Revista del Servizio Minerario).—Iron & Coal Trade Rev., Dec. 5, 1913; p 875; 1500 w; 35c.

——— *La Production Houillère Française en* 1912. [The production of coal in France in 1912].—Bull. Soc. Amicale Douai, Aug. 25, 1913; p 577; 200 w; 35c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

——— *La Russie Houillère et Métallurgique en* 1912. [Russian coal mining and metallurgy in 1912].—L'Echo des Mines, June 19, 1913; p 707; 1200 w; 35c.

———. *L'Industrie Minérale de L'Indo-Chine en* 1912. [The mineral industry of Indo-China in 1912].—L'Echo des Mines, June 2, 1913; p 626; 1100 w; 35c.

——— *Lining the Flush Pipe.*—Coal Age, July 19, 1913; p 82; 1250 w*; 20c.

——— *Madison Coal Corporation Exhibition, Illinois.*—Colly. Engr., Dec., 1913; p 275; 5000 w*; 35c.

———. *Map of West Virginia, Showing Coal, Oil, Gas, Iron Ore, and Limestone Areas.*—W. Va. Geol. Surv.

——— *Michigan Mining Interests in Spitzbergen.*—E. & M. J., Nov. 29, 1913; p 1008; 750 w; 25c.

——— *Michigan Shows Increased Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1147; 650 w; 10c.

——— *Mines of the Continental Coal Corporation.*—Coal Age, Aug. 9, 1913; 1200 w*; 20c.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 25c.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *Mining in Victoria in* 1912.—Mg. Jnl., London, Nov. 29, 1913; p 1129; 1200 w; 35c.

——— *Minéreaux Industriels et Industries Minières du Canada.* [Industrial ores and mining industries of Canada].—Canada Dep. of Mines, Mines Branch; 85 pp*.

——— *Mining in Tasmania in* 1912.—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1700 w; 35c.

——— *Missouri's Mineral Output in* 1912. (U. S. Geol, Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1143; 500 w; 10c.

———. *New General Regulations for British Coal Mines.*—Colly. Guard., London, Aug. 1, 1913; (supplement) 11,000 w; 35c. Iron & Coal Tr. Rev., Aug. 1, 1913; p 151; 10,000 w; 35c.

——— *New Mexico Nearly Doubles Output in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1114; 200 w; 10c.

———. *Peabody Coal Co.'s Tipple at Nokomis, Ill.*—Coal Age, June 21, 1913; p 956; 500 w*; 20c.

——— *Primäre und Sekundäre Druckwirkungen im Stein- und Braunkohlenbergbau.* [Primary and secondary pressure effects in coal and lignite mining].—Zts. Zentral Verbd. Bergbau Betriebsl., Sept. 1, 1913; p 519; 4000 w*; Sept. 15, 1913; p 559; 3300 w*; 70c.

———. *Production Houillère Française*

en 1912. [The coal production of France in 1912].—Bull. Soc. Amicale Douai, May 25, 1913; p 315; 100 w (table); 35c.

——— *Production Houillère du Pas-de-Calais et du Nord.* [Coal production of the departments of Pas-de-Calais and Nord, France].—Bull. Soc. Amicale Douai, Aug. 10, 1913; p 534; 1200 w; 35c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912]. —Zts. Berg., Hütten & Salinenw., Vol. 61, 1st Statistical Number, 1913; p 1; 40 pp; $1.50.

——— *Prussian Mining in* 1912.—Mg. Jnl., London, Dec. 6, 1913; p 1153; 2200 w; 35c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June* 30, 1912.—U. S. Dept. of the Interior; 24 pp.

———. *Regulation of Well Drilling through Coal.*—E. & M. J., July 26, 1913; p 151; 400 w; 25c.

———. *Rules and Regulations to Govern the Coal Mines at Gebo, Wyo., Leased to the Owl Creek Coal Co.*—U. S. Bureau of Mines; 13 pp.

——— *"Sisters of Providence" Operate a Coal Mine in Indiana.* (Abstract from Bl. Diam.).—Mg. & Eng. World, Aug. 30, 1913; p 381; 700 w*; 10c.

———. *Some Freak Coal Found in Various Districts.*—Bl. Diam., June 21, 1913; p 103; 2000 w; 30c.

——— *Stripping Anthracite in Pennsylvania.*—Excavating Engr., Dec., 1913; p 88; 2800 w*; 20c.

——— *Tasmanian Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

——— *Technische Fortschritte im Bergwerkswesen. Massregel zur Bekämpfung von Grubenbränden.* [Technical progress in mining. Measures for fighting mine fires]. —Kali, Erz & Kohle, Oct. 5, 1913; p 999; 2800 w; 35c.

———. *The Askern Colliery, England.* —Iron & Coal Tr. Rev., July 18, 1913; p 81; 4000 w*; 35c.

——— *The Bullcroft Main Colliery, England.*—Iron & Coal Tr. Rev., London, Oct. 17, 1913; p 605; 3700 w*; 35c.

——— *The Cape Breton, Nova Scotia, Coal Fields.*—Coal Age, Nov. 29, 1913; p 805; 2000 w*; 20c.

——— *The Coal Fields of British India.* (Abstracted from Memoirs of the Geol. Surv. of India).—Coal Age, Oct. 18, 1913; p 570; 1800 w*; 20c.

——— *The Coal Fields of India.*—Mg. Jnl., London, Aug. 30, 1913; p 821; 1100 w; 35c.

——— *The Coal Fields of Southern Chile.*—Mg. Jnl., London, Aug. 23, 1913; p 797; 1600 w; 35c.

——— *The Coal Industry of the World.* —Mg. Jnl., London, Sept. 27, 1913; p 929; 2000 w; 35c.

——— *The Mining Industry in Queensland* —Mg. Jnl., London, Nov. 8, 1913; p 1051; 2500 w; 35c.

———. *The Russian Coal Syndicate "Prodoogol."*—I. & C. Tr. Rev., June 27, 1913; p 1047; 2300 w; 35c.

——— *Transporting Coal in China.*— M. & S. P., Dec. 20, 1913; p 973; 700 w*; 20c.

———. *Wyoming Coal Production for* 1912.—Mg. & Eng. World, July 26, 1913; p 164; 350 w; 10c.

——— *Zur Kenntnis der Berg- und Hüttenindustrie in China.* [Concerning the mining and metallurgical industries in China].—Berg & Hüttenmännische Rundschau, Sept. 20, 1913; p 309; 2800 w; 35c.

Preparation, Marketing, Storage, Testing, Etc.

Buchanan, Gordon.—*The Preparation of Coal; The Necessity of Improved Methods to Offset Loss of Revenues Resulting from Decreased Percentage of Lump Coal.* (Address delivered at dedication of Mg. Laboratories, Univ. of Ill.).—Colliery Engr., Aug., 1913; p 51; 1500 w; 35c.

Budge, G. D., and Jayne, W. E.—*Machine Mining in the South Wales Steam Coals.* (Paper read before So. Wales Inst. Engrs.). —Colly. Guard., London, Sept. 26, 1913; p 628; 3500 w*; 35c.

Chamberlin, J. W.—*Coal Shipping on the Great Lakes.*—Coal Age, Aug. 9, 1913; p 188; 2500 w*; Aug. 16; 5500 w*; 40c.

Cuvellier, I. C.—*Coal Shipping on the Great Lakes.*—Coal Age, Sept. 6, 1913; p 338; 3000 w*; Sept. 13, 1913; p 374; 4500 w*; Sept. 20, 1913; p 408. 2500 w*; 60c.

Dean, Samuel.—*Coal Mining in the United States, with Special Reference to the Treatment of Coal Dust and Haulage by Electric Locomotives.* (Abstract of paper read before N. of England Inst. of Mg. & Mech. Engrs.).—Ir. & C. Tr. Rev., London, Aug. 8, 1913; p 196; 2800 w; 35c.

Eckardt, Dr.—*Das Trocknen der Braunkohle und seine Wirtschaftlichkeit.* [The drying of lignite and its economy] (From Braunkohle).—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 15, 1913; p 505; 600 w; 35c.

Gamzon, L.—*Hydraulic Stowing at French Collieries.*—Colly. Engr., Dec., 1913; p 289; 250 w; 35c.

Garcia, John A.—*Development and Operation of a Bituminous Mine.* (Abstract of paper read before Int. Ry. Fuel Assn.).—Bl. Diam., June 28, 1913; p 92; 3000 w*; 30c.

Gmeyner, Ernst. — *Uber Braunkohlenbrikettierung;* [Briquetting Lignite].—Montanistische Rundschau, June 1, 1913; p 527; 1200 w*; July 1, 1913; p 625; 1150 w*; July 16; p 673; 1300 w*; 70 cts.

Gordon, J. M.—*The Classification of Coals.* —Canadian Mg. Jnl., Aug. 15, 1913; p 524; 5000 w; 35c.

Gradenwitz, Alfred.—*A Modern Distribution and Storage Plant.*—Coal Age, Sept. 13, 1913; p 378; 1800 w*; 20c.

Hall, J. J., and Booth, F. L.—*Ashington and Ellington Collieries, Great Britain.*— Iron & Coal Trade Rev., London, Nov. 21, 1913; p 795; 9500 w*; 35c.

Hetzel, F. V.—*Gates for Run-of-Mine Coal.*—Coal Age, June 14, 1913; p 921; 800 w*; 20c.

Higgins, Will C.—*The Spring Canyon Coal Co., Utah.*—S. L. Mg. Rev., June 30, 1913; p 9; 3500 w*; 25c.

Hinze, K.—*Kontinuierlich und schnellfördernde Transporteinrichtungen für die Bewegung von Schwergütern.* [Continuous and rapid-operating transportation devices for conveying heavy materials].—Fördertechnik, Sept., 1913; p 207; 2200 w*; 65c.

Jüngst, F.—*Untersuchungen über die Aufbereitung der Feinkohlen.* [Investigations

on the preparation of fine coal].—Glückauf, Aug. 23, 1913; p 1322; 6000 w*; 50c.

Juretzka, Franz.—*Erz- und Kohlesilos und Transport zu den Verbrauchsstellen, mit besonderer Berücksichtigung der Zinkhüttenverhältnisse.* [Ore and coal silos and transport to place of consumption, with special reference to zinc-smelting conditions].—Metall & Erz, Sept. 8, 1913; p 745; 1000 w*; 50c.

Llewelyn, Lee.—*The Atlas Co.'s Plant at Burgettstown, Penn.*—Coal Age, Sept. 6, 1913; p 334; 2000 w*; Sept. 13, 1913; p 365; 3000 w*; 40c.

Lord, Nathaniel Wright, and Demorest, Dana J.—*Metallurgical Analysis, Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 (book).

Mahler, M. P.—*Experiments on the Oxidation of Coal.* (Abstracted from Annales des Mines).—Colly. Guard., Oct. 31, 1913; p 891; 2000 w; 35c.

Mavor, Sam.—*Underground Conveying.* (Trans. So. Wales Inst. Engrs.; abstract).—Coll'y Guard., May 30, 1913; 5000 w*; 35c.

Noyes, W. A.—*Standard Method of Coal Analysis.* (Preliminary report of Committee on Coal Analysis of Am. Soc. for Testing Materials and Am. Chem. Soc.).—Chem. Engr., July, 1913; p 7; 6000 w; 35c.

Paton, J. Drummond.—*Handling Fine Dust at a Coal Washery.* (Abstract of paper read before Manchester Geol. & Mg. Soc.).—Coal Age, Oct. 18, 1913; p 573; 4200 w*; 20c.

Perkins, Frank C.—*Combination Picking Tables and Loading Rooms.*—C. & C. Op., July 10, 1913; p 235; 1200 w*; 25c.

Perkins, Frank C.—*A Combined Coal Cutter, Puncher and Drill.*—C. & C. Opr., July 31, 1913; p 295; 2500 w*; 25c.

Peter, Alfred M.—*Some Calorimeter Determinations on Kentucky Coals.* (Abstract of paper read before Kentucky Mg. Inst.).—Coal Tr. Bull., June 2, 1913; p 47; 4500 w; 25c.

Peterson, O. G.—*Shaking Screens in a Concrete Tipple.*—Coal Age, June 21, 1913; p 958; 1200 w*; 20c.

Peterson, O. G.—*The Asco Concrete Tipple and Shaker Screen.*—C. & C. Opr., Aug. 23, 1913; p 386; 1300 w*; 25c.

Pishel, Max A.—*The Pishel Coking Test.*—Coll'y Engr., July, 1913; p 674; 6000 w*; 35c.

Price, William Z.—*Short Mountain Breaker, Pennsylvania.*—Colly. Engr., Dec., 1913; p 267; 2700 w*; 35c.

Rice, George S., Jones, L. M., Clement, J. K., and Egy, W. L.—*First Series of Coal-Dust Explosion Tests in the Experimental Mine.*—Washington, D. C.; Bulletin 56, U. S. Bureau of Mines; 115 pp*.

Say, A.—*Four Sécheur Rotatif Poncet Installé à L'Usine à Briquettes de la Compagnie des Mines de l'Escarpelle, à Douai.* [The Poncet rotary drying furnace installed at the briquetting plant of the Escarpelle Mining Co., France].—Revue Noire, Aug. 17, 1913; p 480; 100 w*; 35c.

Somermeier, E. E.—*Coal: Its Composition, Analysis, Utilization and Valuation.* 175 pp. $2 (book).

Taffanel, J.—*Station d'Essais de Liévin.* [The Liévin testing station, France] (Report to Assemblée Générale du Comité Central des Houillères de France].—Bull. Soc. Amicale Douai, Aug. 25, 1913; p 564; 3500 w; 35c.

Taylor, James.—*The Madison Coal Corporation Mine No. 9, Illinois.*—Coal Age, Nov. 1, 1913; p 640; 2300 w*; 25c.

Taylor, Raleigh C.—*The Hess Dustless Mining Machine.* (Paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., June 26, 1913; p 185; 3000 w*; 20c.

Teed, P. Litherland.—*The Determination of Water in Coal.* (Trans. Inst. Mg. & Met.; abstract).—Coll'y Guard., May 30, 1913; p 1115; 3000 w*; 35c. S. Af. Engg., June, 1913; 2500 w*; 35c. Coal Tr. Bull., Sept. 15, 1913; p 32; 2400 w; 25c.

Williams, Milton J.—*A Model Coal-Preparation Plant.* [Solvay, Ill.].—Coal Age, June 7, 1913; p 889; 1000 w; 20c.

——— *A New Coal-Washing Table.*—Coal Age, Nov. 15, 1913; p 732; 1300 w*; 20c.

———. *A Notable Scottish Colliery.* (Newbattle Abbey).—Coll'y Engr., July, 1913; p 671; 3800 w*; 35c.

———. *A Portable Coal and Coke-Handling Machine.*—Ir. & C. Tr. Rev., London, May 30, 1913; p 889; 1000 w; 35c.

——— *Coal Shipping on the Great Lakes.*—Coal Age, Sept. 27, 1913; p 449; 1800 w*; 20c.

——— *Coal Washing, Coke and Byproduct Plant at Barugh, England.*—Colly. Guard., London, Nov. 14, 1913; p 993; 6500 w*; 35c.

———. *Coppée By-product Coke-Oven Installation at Lancaster's Steam Coal Collieries. Cwmtillery, South Wales.*—I. & C. Tr. Rev., June 27, 1913; p 1033; 2500 w*; 35c.

——— . *Dustless Breakers.* — Colliery Engr., Aug., 1913; p 29; 300 w; 35c.

——— *Entstaubungsanlagen in Steinohlen-Separationen.* [Equipment for the removal of dust in coal separation].—Kohle & Erz, Sept. 1, 1913; p 922; 1200 w*; 35c.

——— *Fabrication des Briquettes de Charbon avec Addition de Naphtaline.* [The manufacture of coal briquettes with the addition of naphthaline] (From La Technique Moderne).—Revue Industrielle, June 14, 1913; p 15; 300 w; 35c.

——— *New Coal Handling Plant of the Lehigh Valley R. R. at South Amboy, N. J.*—Bl. Diam., Aug. 2, 1913; p 23; 1500 w*; 25c.

——— *Progress in Fuel Utilization.* [Editorial].—M. & S. P., Oct. 25, 1913; p 638; 1000 w; 20c.

——— *The Bullcroft Main Colliery, England.*—Iron & Coal Tr. Rev., London, Oct. 17, 1913; p 603; 3700 w*; 35c.

——— *The New Clinchfield Dock at Charleston, S. C.*—Bl. Diam., Aug. 2, 1913; p 26; 11 pp*; 25c.

——— *Tipples of the Allegheny River Mining Co.*—Coal Age, Aug. 23, 1913; p 265; 1300 w*; 20c.

Economics of Coal Mining

Barnhurst, H. R.—*The Use of Pulverized Coal as a Fuel for Metallurgical Furnaces.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2523; 10 pp; 35c. Iron Age, Oct. 23, 1913; p 906; 3500 w*; 30c.

Bines, W. H.—*Efficiency of Haulage in Coal Mines.*—Colly. Engr., Oct., 1913; p 171; 1400 w*; 35c.

Bolleau, John W.—*What the Trouble Is with Coal Mining.* (Paper read before Am. Mg. Cong.).—C. & C. Opr., Oct. 23, 1913; p 560; 2400 w*; 20c.

Butow and Dobblestein.—*Compressed-Air Pit Locomotives.* [Gives results of tests with compressed-air locomotives for colliery haulage]. (Abstracted from Glückauf).—Ir. & C. Tr. Rev., May 30, 1913; p 888; 2000 w; 35c.

Chance, Edmund M.—*The Earning Power of Chemistry.*—Coll'y Engr., July, 1913; p 693; 1800 w; 35c.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913] p 209; 2700 w; 10c.

Emerson, Harrison.—*Efficiency Thoughts Touching on Coal Mining.* (Paper read before Am. Inst. Mg. Engs.).—Black Diam., Dec. 6, 1913; p 15; 2000 w; 30c.

Emerson, Harrison.—*Efficiency in Coal Mining.* (Paper read before Coal Mg. Inst. of Am.).—Coal Age, Dec. 13, 1913; p 886; 2700 w; 20c.

Evans, J. Clark.—*The Use of Steel Ties in Mining.* (Paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., June 26, 1913; p 191; 4000 w; 20c. Coal Age, July 5, 1913; p 8; 2000 w*; 20c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Pütz, O.—*Die technischen und wirtschaftlichen Vorzüge des ovalen Rohrquerschnittes gegenüber dem kreisrunden beim Spülversatzbetrieb.* [The technical and economic advantages of oval pipe cross section overcircular in hydraulic stowing].—Kohle & Erz, Sept. 1, 1913; p 866; 4000 w*; 35c.

Rickards, A. E.—*Does Bituminous Mining Pay?*—Coal Age, Sept. 20, 1913; p 418; 9000 w*; 20c.

Schultze, Karl.—*Die Wirtschaftlichkeit des Maschinenbetriebes einer oberschlesischen Steinkohlengrube.* [The economy of the power-equipment operation of an Upper Silesian coal mine].—Glückauf, Oct. 25, 1913; p 1757; 6000 w*; 50c; Nov. 1; p 1797; 5200 w*; Nov. 1; p 1841; 4200 w*; $1.50.

———. *Wirtschaftliche Vorteile durch Verwendung von Beton im Bergbau.* [Economic advantages in the use of concrete in mining].—Kali, Erz & Kohle, Dec. 15, 1913; p 1251; 1100 w; 35c.

Mechanical Cutters

Budge, G. D., and Jayne, W. E.—*Machine Mining in the South Wales Steam Coals.* (Paper read before So. Wales Inst. Engrs.).—Colly. Guard., London, Sept. 26, 1913; p 628; 3500 w*; 35c.

Miller, Wilbert A.—*Coal Mining Machines.*—Coll'y Engr., Sept., 1913; p 77; 4500 w*; 35c.

Perkins, Frank C.—*A Combined Coal Cutter, Puncher and Drill.*—C. & C. Opr., July 31, 1913; p 295; 2500 w*; 25c.

Taylor, Raleigh C.—*A Coal Cutter with Saw and Auger Movement* [Hess Machine]; (Paper read before W. Va. Coal Mg. Inst.).—Coal Age, July 5, 1913; p 11; 1500 w*; 20c.

Walker, Sydney F.—*Coal Cutting Machinery in England.*—Coal Age, Aug. 9, 1913; p 192; 1300 w; 20c.

Warbom, C. E.—*A New Type of Coal Cutter.*—Coal Age, Dec. 20, 1913; p 926; 1100 w*; 20c.

Waxbom, C. E.—*The Jeffrey-Drennen Turret Coal Cutter.*—Mg. & Eng. World, Nov. 22, 1913; p 937; 1000 w*; 10c.

Coal Dust, Fire Damp and Gases

Ashworth, James.—*Report of English Explosions in Mines Committee.*—Coll'y Engr., Sept., 1913; p 92; 1300 w; 35c.

Ashworth, James.—*The Combustion of Oxygen and Coal Dust in Mines.*—Coll'y Engr., July, 1913; p 709; 1200 w; 35c.

Blackett, W. C.—*Combustion of Oxygen and Coal Dust.* (Paper read before North of England Inst. Mg. & Mech. Engrs.; abstract).—Austr. C. & I. Tr. Rev., June 5, 1913; p 317; 6500 w; 35c.

Burrell, George A., and Seibert, Frank M.—*Apparatus for Gas-Analysis Laboratories at Coal Mines.*—Tech. Paper 14, U. S. Bureau of Mines; 24 pp*.

Garforth, W. E.—*Origin of Stone Dust in Coal Mines.* (Paper read before Inst. Mg. Engrs., Great Britain; abstract).—C. & C. Opr., Sept. 4, 1913; p 408; 2500 w; 25c.

Dean, Samuel.—*Coal Mining in the United States, with Special Reference to the Treatment of Coal Dust and Haulage by Electric Locomotives.* (Abstract of paper read before N. of England Inst. of Mg. & Mech. Engrs.).—Ir. & C. Tr. Rev., London, Aug. 8, 1913; p 196; 2800 w; 35c.

Dixon, H. B., and Campbell, Colin.—*The Effect of Incombustible Dusts on the Explosion of Gases.*—Jnl. Soc. Chem. Ind., London, July 15, 1913; p 684; 4 pp; 65c.

Fillunger, August.—*Grubenbrände, deren Entstehung und Gewältigung unter besonderer Berücksichtigung der Verhältnisse des Steinkohlenbergbaues und der Schlagwettergruben.* [Mine fires, their cause and mastery, with special reference to the conditions of coal mining and of gaseous mines].—Montanist. Rundschau, Nov. 16, 1913; p 1085; 4500 w; Dec. 1, 1913; p 1152; 4000 w; 70c.

Forstmann, Berhassessor.—*Die verschieden Bauarten von Wetteranzeigern.* [The different types of mine-gas indicators].—Glückauf, June 28, 1913; p 1008; 900 w*; July 5; p 1058; 5000 w*; $1.

Frazer, J. C. W., Hoffman, E. J., and Scholl, L. A., Jr.—*A Laboratory Study of the Inflammability of Coal Dust.*—Bull. 50, U. S. Bureau of Mines; 60 pp*.

Garforth, W. E.—*The Principle of Stone Dusting for the Prevention of Colliery Explosions.* (Paper read before Inst. of Mg. Engrs., London).—Ir. & C. Tr. Rev., June 6, 1913; p 911; 4800 w; 35c. Mg. Jnl., London, June 14; p 587; 5000 w; 35c.

Haber, F.—*Der Haber-Leiserche Schlagwetteranzeiger.* [The Haber-Lerser firedamp indicator].—Montanist. Rundschau, Nov. 16, 1913; p 1099; 1500 w*; 35c.

Hills, Richard C.—*Investigation of Roof-Shale Dust with Reference to Its Adaptability as a Deterrent in Coal-Dust Explosions.*—Proc. Colo. Sci. Soc., Vol. X, pp 265-278*; 65c. Abstract in C. & C. Opr., Aug. 14, 1913; p 345; 2000 w; 20c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June 30, 1912.*—U. S. Dep. of the Interior; 88 pp.

Kyle, W.—*Empson's Apparatus for Analyzing Mine Air.* (Paper read before York-

shire Branch Nat. Assn. Coll'y Mgrs.; abstract).—Mg. Engg., Aug., 1913; p 164; 1000 w*; 35c.

Lamplough, F. E. E., and Hill, A. Muriel. —*The Slow Combustion of Coal Dust and Its Thermal Value.* (Abstract of paper read before Inst. Mg. Engrs., London).—Coll'y Guard., June 6, 1913; p 1212; 2700 w; 35c.

Lomax, James.—*Spontaneous Combustion of Coal.* (Paper read before Inst. Mg. Engrs.).—Colly. Guard., London, Sept. 26, 1913; p 630; 3500 w; 35c. Iron & Coal Tr. Rev., Sept. 26, 1913; p 594; 6000 w; 35c.

Oliver, Thomas.—*Electricity and Coal Dust.* (Abstract of address delivered before Section of Industrial Hygiene at the Paris Congress).—Colly. Guard., London, July 18, 1913; p 123; 2500 w*; 35c.

Paton, J. Drummond.—*Handling Fine Dust at a Coal Washery.* (Abstract of paper read before Manchester Geol. & Mg. Soc.).—Coal Age, Oct. 18, 1913; p 573; 4200 w*; 20c.

Powell, J. W.—*A Gas-Ignition Controversy.* [Theory of the explosion of the Bellevue coal mine, Alberta, Dec. 9, 1910].—Coal Age, June 28, 1913; p 985; 4000 w*; 20c.

Puning, Franz.—*Benzol How It Is Recovered from Coal Gas.*—Iron Tr. Rev., Oct. 9, 1913; p 625; 6500 w*; 25c.

Rice, George S., Jones, L. M., Clement, J. K., and Egy, W. L.—*First Series of Coal-Dust Explosion Tests in the Experimental Mine.*—Washington, D. C.; Bulletin 56, U. S. Bureau of Mines; 115 pp*.

Rice, Geo. S., and Jones, L. M.—*Coal Dust Explosion Test, U. S. Bureau of Mines.*—Mg. & Eng. World, Oct. 18, 1913; p 701; 3000 w*; 10c. Black Diam., Oct. 18, 1913; 2500 w*; 25c.

Sellars, E. L., and Campbell, C.—*Some of the Conditions Affecting Explosions of Coal Gas and Air.*—Jnl. Soc. Chem. Ind., London, July 31, 1913: p 730: 4000 w*; 65c.

Stuuch, Karl.—*Die staatliche Versuchsanstalt für Schlagwetter, Kohlenstaub, Brandgase, usw. in Brüx.* [The government experiment station for firedamp, coal dust, etc., in Brüx, Bohemia.—Montanist. Rundschau, No. 17, 1913; p 829; 1200 w; 35c.

Taffanel, J.—*French Coal-Dust Experiments at Commentry.* (Report published by the Comitè Central des Houillères de France).—Colly. Guard., London, Oct. 31, 1913; p 889; 3800 w; 35c.

Taffanel, J.—*Neue Erfahrungen über den Steinkohlenstaub und über die Mittel, seine Gefahren zu bekämpfen;* [Recent experiences with coal dust and with the means for combatting its dangers] (Translation into German from Annales des Mines).—Zts. Zentral-Verbd. Bergbau-Betriebsl., June 15, 1913; p 251; 4000 w*; July 1, 1913; p 383; 900 w*; Aug. 1, 1913; p 456; 3,000 w*; Oct. 1, 1913; p 613; 1200 w*; Sept. 1, 1913; p 540; 1200 w*; Dec. 1, 1913; p 767; 3000 w*; $2.10.

Taffanel, J.—*Station d'Essais de Liévin.* [The Liévin testing station, France] (Report to Assemblée Générale du Comité Central des Houillères de France).—Bull. Soc. Amicale Douai, Aug. 25, 1913; p 564; 3500 w; 35c.

Thornton, W. M.—*The Comparative Inflammability of Mixtures of Pit Gas and Air by Momentary Electric Arcs.* (Abstract of paper presented at N. of England Inst. of Mg. & Mech. Engrs.).—Ir. & C. Tr. Rev., London, Aug. 8, 1913; p 194; 3000 w*; 35c.

Thornton, Wm. M.—*Influence of the Presence of Gas Upon the Inflammability of Coal Dust in Air.* (Paper read before the British Assn.).—Colly. Engr., London, Sept. 19, 1913; p 578; 6000 w*; 35c

Victor, David.—*How to Handle a Dry or Dusty Mine.*—Coll'y Engr., Sept., 1913; p 99; 3000 w; 35c.

Woltersdorf, Bergassessor.—*Das Verhalten von Kohlenstaub mit verschiedenem Feuchtigkeitsgehalt gegen Schüsse von Schwarzpulver und Gurdynamit.* [The behavior of coal dust of various moisture content toward shots of black powder and dynamite].—Glückauf, Aug. 30, 1913; p 4500 w; 50c.

———. *Acetylene Lamps in Coal Mines; Tests of Carbide Lamps and Oil Lamps to Show Their Behavior in Atmospheres Containing Carbon Dioxide.*—Colliery Engr., Aug., 1913; p 49; 2000 w; 35c.

——— *A Novel Firedamp Indicator* [Haber].—Colly. Guard., London, Nov. 7, 1913; p 939; 2100 w*; 35c.

———. *Coal Mine Fires.* (Miscellaneous excerpts).—Coll'y Engr., July, 1913; p 690; 1000 w; 35c.

——— *Combustion of Coal Dust.*—Aust. C. & I. Tr. Rev., Aug. 5, 1913; p 368; 2000 w; 35c.

———. *Explosions at the Cadeby Main Colliery (England).*—Coal Age, June 21, 1913; p 951; 2200 w*; 20c.

——— *Schlagwetter- und Kohlenstaubexplosionen in Preussen.* [Firedamp and coal dust explosions in Prussia].—Bergwerks-Ztg., Nov. 12, 1913; p 1; 500 w; 35c.

——— *Spontaneous Combustion in Coal Mines.* (Evidence given before Committee of Investigation in Great Britain).—Iron & Coal Trade Rev., Dec. 5, 1913; p 880; 4500 w; 35c.

——— *Technische Fortschritte im Bergwerkswesen. Massregel zur Bekämpfung von Grubenbränden.* [Technical progress in mining. Measures for fighting mine fires].—Kali, Erz & Kohle, Oct. 5, 1913; p 999; 2800 w; 35c.

———. *The Askern Colliery, England.*—Iron & Coal Tr. Rev., July 18, 1913; p 81; 4000 w*; 35c.

——— *The Influence of Incombustible Dusts in Preventing the Inflammation of Coal Dust.* (Concluding report of British Explosions in Mines Committee).—Colly. Guard., Nov. 28, 1913; p 1101; 10,000 w*; 35c.

———. *The New Coal-Dust Experiments.* [Fourth report of Explosions in Mines Committee, Great Britain].—Ir. & C. Tr. Rev., London, June 20, 1913; p 993; 9000 w*; 35c. Colly. Guard., London, June 20, 1913; p 1328; 8000 w*; 35c. Iron & Coal Trade Rev., London, Nov. 21, 1913; p 803; 12,000 w; 35c.

———. *The New Screening Plant at Whitwood Colliery, England.*—Iron & Coal Tr. Rev., London, July 25, 1913; p 117; 2000 w*; 35c.

——— *Ueber Schlagwetteranzeige.* [On firedamp indications].—Bergbau, Nov. 6, 1913; p 739; 1300 w; 35c.

Coal By-Products

Becker, J., and Robertson, L. B.—*Production and Industrial Application of By-product Coke-Oven Gases.* (Paper read before Chicago Sec. Am. Chem. Soc.).—Jnl. Ind. & Eng. Chem., June, 1913; p 491; 7000 w; 65c.

Berthelot, Charles.—*Etude des Nouveau Systémes de Condensation Goudronneuse du Gaz de Houille et de Production du Sulfate d'Ammoniaque.* [Study of the new systems of condensing tar from coal gas, and the production of ammonium sulphate].—Revue de Métallurgie, Aug., 1913; p 1010; 16,000 w*; Sept.; p 1065; 30,000 w*; $2.30.

Blauvelt, William H.—*Discussion of the By-Product Coke Oven.* (Abstract of paper presented before Am. Iron & Steel Inst.).—Ir. Tr. Rev., June 26, 1913; p 1457; 1600 w; 25c.

Desmarets, M.—*La Récoupération de l'Ammoniaque du Gaz de Distillation de la Houille dans les Cokeries.* [The recovery of the ammonia from gas distilled from coal in coking plants].—Revue de Métallurgie, Aug., 1913; p 983; 10,000 w*; $1.15.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Gevers-Orban.—*The Distillation of Tar in Metallurgical Practice.* (Paper read before Iron & Steel Inst. at Brussels).—Colly. Engr., London, Sept. 12, 1913; p 527; 1800 w*; 35c.

Gobiet, Alfred.—*Die Fabrikation des Benzols aus Koksofengasen.* [The manufacture of benzol from coke-oven gases].—Montanist. Rundschau, Aug. 1, 1913; p 728; 1800 w*; Aug. 16; p 772; 200 w*; 70c.

Groeling, A. E. von.—*New Methods in the Utilization of Coal.*—Petr. Wld., Aug., 1913; p 380; 2300 w*; 35c.

Gwosdz, Dipl. Ing.—*Ein neuer Gaserzeuger mit Gewinnung der Nebenprodukte.* [A new by-product gas producer].—Glückauf, June 21, 1913; p 980; 1700 w*; 50c.

Houbaer, E.—*The Utilization of Blast-Furnace and Coke-Oven Gases in Metallurgy.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 349; 20,000 w*; 35c. Iron Age, Sept. 18, 1913; p 608; 3700 w; 30c.

Korten, F.—*Das Ferfahren von Still zur direkten Gewinnung des Teers und Ammoniaks aus Koksofengasen.* [The Still method for the direct recovery of tar and ammonia from coke-oven gases].—Glückauf, July 12, 1913; p 1102; 2000 w*; 50c.

Masselon, E.—*Épuration des Gaz de Hauts-Fourneaux.* [Purification of blast-furnace gas].—La Métallurgie, July 30, 1913; p 600; 700 w*; 35c.

Meissner, C. A.—*By-product Ovens for Manufacture of Coke.*—Ir. Tr. Rev., June 19, 1913; p 1412; 3000 w*; June 26, 1913; p 1454; 3000 w; 50c.

Meissner, C. A.—*Recovery of Byproducts in the Modern Byproduct Coke Oven Plant.* (Paper read before Am. Ir. & St. Inst.; abstract).—Met. & Chem. Engg., Aug., 1913: p 454: 4000 w*: 35c.

Metzler, R.—*Die Gasreinigung auf dem Hochofenwerk Servola;* [Gas purification at the Servola blast-furnace plant, Austria].—Montanist. Rundschau, June 16, 1913; p 581; 2200 w*; 35c.

Ohnesorge, Otto.—*A Contribution to the History of the Direct-Recovery Process.*—Iron & Coal Tr. Rev., London, Oct. 10, 1913; p 563; 3700 w*; 35c.

Reichel, J.—*Ueber die Gewinnung von Ammoniumsulfat mit Hilfe des in den Kokereigasen enthaltenen Schwefels.* [On the recovery of ammonium sulphate with the aid of the sulphur contained in coke-oven gases] (From Glückauf).—Bergbau, July 31, 1913; p 498; 1000 w; 35c.

Reichel, J.—*Ueber die Gewinnung von Ammoniumsulfat mit Hilfe des in den Kokereigasen enthaltenen Schwefels.* [On the recovery of ammonium sulphate with the aid of the sulphur contained in coke-oven gases]. — Zentralblatt Kunstdünger-Ind., Sept. 1, 1913; p 364; 1200 w; 35c.

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Rollason, A., and Taylor, A. W.—*The Production of Motor Spirits from Coal.*—Colly. Engr., London, Sept. 19, 1913; p 577; 2500 w; 35c.

Rosa, E. B., and McBride, R. S.—*Legal Specifications for Illuminating Gas*—Technologic Paper 14, Bureau of Standards, Dep. of Commerce and Labor; 31 pp.

Rumper, Berginspector.—*Die wirtschaftliche Bedeutung der deutschen Benzolgewinnung, insbesondere für die Motorenindustrie.* [The economic significance of German benzol recovery, especially for the motor industry].—Bergbau, Oct. 16, 1913; p 689; 2000 w*; 35c.

Rzehulka, A.—*Die Untersuchung der Steinkohle in der Praxis des Kokereibetriebes mit Gewinnung der Nebenprodukte.* [The examination of coal in coking with the recovery of by-products].—Zts. Oberschles. Berg. & Hüttenm. Vereins, June, 1913; p 243; 6000 w*; 50c.

Simmersbach, Oskar.—*Die Verkokung der Steinkohle bei niederer Temperature.* [The coking of coal at low temperature].—Berg & Hüttenmannische Rundschau, Oct. 5, 1913; p 1; 7000 w*; 35c.

Thau, A.—*Ammonia Stills in By-Product Coke Oven Plant.* (Translation from Glückauf).—Ir. & C. Tr. Rev., London, June 27, 1913; p 1043; 5000 w*; July 4, 1913; p 1; 5000 w*; July 11, 1913; p 54; 6000 w*; $1.05.

Thiry, Henry.—*Nouveaux Perfectionnements dans la Fabrication du Coke.* [Recent improvements in the manufacture of coke].—Revue de Métallurgie, July, 1913; p 811; 4200 w*; $1.15.

Thornton, Wm. M.—*Influence of the Presence of Gas Upon the Inflammability of Coal Dust in Air.* (Paper read before the British Assn.).—Colly. Engr., London, Sept. 19, 1913; p 578; 6000 w*; 35c.

J. A. S.—*Production of Stone Dust in Collieries.*—Coll'y Engr., Sept., 1913; p 90; 1100 w*; 35c.

J. A. S.—*Prevention of Coal-Dust Explosions.*—Colliery Engr., Aug., 1913; p 10; 600 w*; 35c.

———. *Beiprodukte Rekuperativ-Koksöfen.* [By-product recuperative coke ovens].—Bergbau, June 26, 1913; p 417; 1800 w*; 35c.

——— *Benzol and Its Uses.*—Mg. & Eng. World, Sept. 27, 1913; p 548; 200 w; 10c.

——— *Coal Washing, Coke and Byproduct Plant at Barugh, England.*—Colly. Guard., London, Nov. 14, 1913; p 993; 6500 w*; 35c.

———. *Coppée By-product Coke-Oven Installation at Lancaster's Steam Coal Collieries, Cwmtillery, South Wales.*—I. & C. Tr. Rev., June 27, 1913; p 1033; 2500 w*; 35c.

——— *Die Kunstdünger-Industrie Belgiens.* [The artificial-fertilizer industry of Belgium].—Zentralblatt Kunstdünger-Ind., July 1, 1913; p 272; 1500 w; 35c.

———. *Die oberschlesische Bergwerks- und Hütteninduſtrie im Jahre* 1912; [The

Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

——— *Ein verbesserter Nebenprodukt-Koksofen.* [An improved byproduct coke oven].—Kali, Erz & Kohle, Oct. 25, 1913; p 1071; 1200 w; 35c.

——— *Fabrication des Briquettes de Charbon avec Addition de Naphtaline.* [The manufacture of coal briquettes with the addition of naphthaline] (From La Technique Moderne).—Revue Industrielle, June 14, 1913; p 15; 300 w; 35c.

——— *Gas Exhauster for Coke Ovens.* —Colly. Engr., Dec., 1913; p 288; 1500 w*; 35c.

——— *Koppers Byproduct Coke Ovens at Llwynypia Colliery, South Wales.*—Iron & Coal Trade Rev., Dec. 5, 1913; p 873; 2500 w*; 35c.

———. *Recent Advances in the Manufacture of By-Product Coke.*—Mg. & Eng. World, July 26, 1913; p 148; 500 w; 10c.

Accidents, Safety, Rescue, Etc.

Adams, F. K.—*Half the Coal Mine Accidents Can Be Eliminated.* (Paper read before Mine Inspectors' Institute, Birmingham, Ala.; abstract).—Coal Tr. Bull., July 15, 1913; p 43; 1700 w; 25c. C. & C. Opr., July 17, 1913; p 256; 1800 w; 25c.

Alliott, J. R. L.—*The Reopening of Norton Colliery with Self-Contained Breathing Apparatus After an Explosion.* (Abstract of paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 912; 5700 w; 35c.

Barrett, Anthony.—*Dont's for Inside Employes.*—Coal Age, July 12, 1913; p 45; 800 w; 20c.

Burns, Daniel.—*Safety in Coal Mines, a Textbook of Fundamentals for Firemen and Other Workers in Mines.*—London, Blackie & Son; 158 pp*; $1 (book).

Clark, H. H.—*Safety Electric Switches for Mines.*—Washington, D. C.; Technical Paper 44. U. S. Bureau of Mines; 8 pp.

Dawson, Thomas W.—*Safety; the First Consideration.* [Coal mining].—Coal Tr. Bull., June 16, 1913; p 47; 3000 w; 25c.

Fay, Albert H.—*Monthly Statement of Coal-Mining Fatalities in the United States; April, 1913, with Revised Figures for Preceding Months.*—U. S. Bureau of Mines; 15 pp.

Fay, Albert H.—*Monthly Statement of Coal-Mine Fatalities in the United States, May, 1913, with Revised Figures for Preceding Months.*—Washington, D. C.; U. S. Bureau of Mines; 16 pp.

Fay, Albert H.—*Monthly Statement of Coal-Mine Fatalities in the United States, July, 1913, with Revised Figures for Preceding Months.*—U. S. Bureau of Mines; 19 pp.

Fay, Albert H.—*Monthly Statement of Coal-Mine Fatalities in the United States, September, 1913, with Revised Figures for Preceding Months.*—U. S. Bureau of Mines; 21 pp.

Freeman, W. E.—*Safeguards in the Use of Electricity in Mines.* (Paper read before Kentucky Mg. Inst.).—Coal & Coke Opr., Dec. 18, 1913; p 125; 2800 w; 25c.

Hall, R. Dawson.—*Two Recent Coal Mining Disasters* [at Senghenydd and Dawson].—Coal Age, Nov. 15, 1913; p 725; 1900 w*; 20c.

Hatfield, H. A.—*Sanitation and Health of the Mining Community.* (Paper read before W. Va. Coal Mg. Inst.).—Coal Trade Bull., Dec. 15, 1913; p 29; 3500 w; 25c.

Henderson, W. E.—*How to Handle a Mine Fire.* (Paper read before Keystone Mg. Inst.; abstract).—Coal Tr. Bull., Aug. 1, 1913; p 47; 1500 w; 25c.

Heym, W.—*Erste Hilfe bei Katastrophen in Kohlengruben.* [First aid in coal-mine accidents].—Kali, Erz & Kohle, Aug. 25, 1913; p 843; 700 w; 35c.

Horton, Frederick W.—*Coal-Mine Accidents in the United States, 1896-1912, with Monthly Statistics for 1912.*—Technologic Paper 48, U. S. Bureau of Mines; 74 pp*.

Horton, F. W.—*Collecting Accurate Statistics of Coal Mine Accidents.* (Abstract from Bull. 69, U. S. Bur. of Mines).—Mg. & Eng. World, Nov. 2, 1913; p 925; 650 w; 10c.

Horton, Frederick W.—*Monthly Statement of Coal-Mining Accidents in the United States, January and February, 1913.* —U. S. Bureau of Mines; 12 pp.

Kersten, J.—*Installation dans les Puits de Mines de Signaux Pouvant être Manoeuvrés des Cages en Mouvement.* [Installation of signals in mine shafts for controlling cages in motion].—Annales des Mines Belgique, 1913, Vol. 18, No. 3; p 697; 3700 w*; 65c.

King, Austin.—*Coal Mine Ventilation in the Connelsville Region.*—Coal Tr. Bull., Aug. 15, 1913; p 49; 3000 w; 25c.

McNeill, John.—*Prevention of Accidents in Coal Mines* (Abstract of paper read before Rocky Mt. Coal Mg. Inst.).—Coal Age, July 12, 1913; p 42; 2500 w; 20c.

Menaugh, J. A.—*Fire Fighting, First-Aid and Rescue Work at Dewmaine, Ill.*—C. & C. Opr., Oct. 23, 1913; p 557; 2500 w*; 20c.

Nesbitt, C. H.—*Value of a Safety Inspector and Instructor for Each Coal Mine.*— Coal Tr. Bull., Aug. 15, 1913; p 32; 1600 w; 25c.

Popper, Josef.—*Ueber einige Neuerungen bei Sauerstoff-Rettungsapparaten.* [On some innovations in oxygen rescue apparatus].— Montanist. Rundschau, No. 17, 1913; p 817; 900 w*; 35c.

Popper, Josef.—*Ueber einige Neuerungen bei Sauerstoff-Rettungsapparaten mit Zirkulation.* [On some innovations in oxygen rescue apparatus with circulation].—Kohleninteressent, Sept. 15, 1913; p 233; 1000 w*; 35c.

Rowan, Henry.—*Mine Fires.*—Colliery Engr., Aug., 1913; p 16; 300 w; 35c.

Shaw, Ira D.—*Welfare Work Among Coal Miners.* (Paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., June 26, 1913; p 187; 3500 w; 20c.

Symms, Arthur.—*Preventing Roof Falls in Mines by Using Cement.*—Bl. Diam., June 21, 1913; p 91; 1500 w*; 30c.

Taylor, James. — *Fire Protection of Mines; The Importance of the "Human Element" as Well as Proper Equipment for Guarding Against Mine Fires.* (Address delivered at Mg. Conference at dedication of Mg. Laboratories at Univ. of Ill.).—Colliery Engr., Aug., 1913; p 28; 1600 w; 35c.

White, J. H.—*Mine and Mine Town Sanitation.* (Paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., June 26, 1913; p 189; 2700 w; 20c. Coal Tr. Bull. July 15, 1913; p 47; 1800 w; 25c.

Whiteside, F. W.—*Safety Provisions of the Victor American Fuel Co., Colo.*—Coal Age, Oct. 11, 1913; p 528; 4200 w*; 20c.

Wilson, Herbert M.—*National Mine-Rescue and First-Aid Conference, Pittsburgh, Pa., Sept.* 23-26, 1912.—Washington, D. C.; Bull. 62, U. S. Bureau of Mines, 74 pp.

Woodbridge, Dwight E.—*Sanitation in Alabama Mining Villages.* (Abstract from U. S. Bureau of Mines report).—Black. Diam., Oct. 18, 1913; p 15; 2000 w*; 20c.

——— *A Novel Firedamp Indicator* [Haber].—Colly. Guard., London, Nov. 7, 1913; p 939; 2100 w*; 35c.

——— *Approved Safety Lamps.* (Approved under Coal Mines Act, Great Britain).—I & C. Tr. Rev., London, Sept. 12, 1913; p 420; 3000 w*; Sept. 19; 4000 w*; 70c

———. *Bath House at Cameron Colliery, Shamokin, Pa.*—Coll'y Engr., July, 1913; p 679; 1800 w*; 35c.

———. *Coal Mine Ventilation.* (Continuation).—Coll'y Engr., July, 1913; p 712; 1300 w; 35c.

——— *Coal Mines Inspection in Great Britain in* 1912. (Abstracts from annual reports of inspectors of mines).—Colly. Engr., London, Sept. 12, 1913 (Supplement); 24 pp*; 35c.

——— *Das Augenzittern der Bergleute.* [Eye oscillation (Nystagmus) of miners].—Bergbau, Dec. 4, 1913; p 812; 2500 w; 35c.

——— *Die tödlichen Verunglückungen beim Bergwerksbetrieb im Oberbergamtsbezirk Dortmund im Jahre* 1912. [The fatal mine accidents in the Upper Dortmund mining district, Germany].—Glückauf, July 12, 1913; p 1106; 3000 w; 50c.

——— *Explosion at Acton No.* 2 *Mine, Alabama.*—Coal Age, Nov. 29, 1913; p 819; 1800 w*; 20c.

———. *Explosions at the Cadeby Main Colliery* (England).—Coal Age, June 21, 1913; p 951; 2200 w*; 20c.

——— *Michigan Mines and Industrial Accidents.* [Editorial].—Mg. & Eng. World, Oct. 25, 1913; p 729; 300 w; 10c.

———. *Mine Ventilation; Methods of Conducting Air Through Mines; Legal Requirements of the Different States.*—Colliery Engr., Aug., 1913; p 45; 1400 w*; Sept., 1913; p 112; 2600 w*; 70c.

——— *Mitteilungen über einige der bemerkenswertesten Explosionen beim preussischen Steinkohlenbergbau im Jahre* 1912. [Communications on some of the most noteworthy explosions in Prussian coal mining in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 313; 3400 w*; $1.50.

———. *New General Regulations for British Coal Mines.* (Abstracted from Colly. Guard.).—Coal Tr. Bull., Aug. 15, 1913; p 35; 4000 w; 25c.

——— *Safety Gates for Shafts.*—Colly. Engr., Oct., 1913; p 162; 1400 w*; 35c.

———. *Sur les Tamis des Lampes de Sûreté.* [On the gauzes of safety lamps].—Bull. Soc. Amicale Douai, May 25, 1913; p 308; 900 w; 35c.

——— *The Connell Colliery Hospital, Sullivan County, Pa.*—Colly. Engr., Nov., 1913; p 201; 4500 w*; 35c.

——— *The Protection of Pit Ponies.*—Colly. Engr., Oct., 1913; p 169; 500 w*; 35c.

——— *Unfälle in elektrischen Betrieben auf den Bergwerken Preussens im Jahre* 1912. [Electrical accidents in Prussian mines in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 321; 16,000 w*; $1.50.

Miscellaneous

Ashworth, James.—*The Combustion of Oxygen and Coal Dust in Mines.*—Coll'y Engr., July, 1913; p 709; 1200 w; 35c.

Bergius, Dr. F.—*Production of Coal from Cellulose at High Temperatures and Pressure.* (Paper read before London Sec. Soc. Chem. Ind.; abstract).—Ir. & C. Tr. Rev., May 30, 1913; p 887; 2000 w; 35c.

Burroughs, William Greeley.—*The Origin of Coal.*—Colly. Engr., Dec., 1913; p 271; 3600 w*; 35c.

Carpenter, R C.—*The Use of Pulverized Coal as a Fuel for Boilers.*—Sibley Jnl. Engg., Dec., 1913; p 85; 9 pp*; 35c.

Chance, H. M.—*Coal Land Valuations.* (Paper read before Am. Inst. Mg. Engrs., Spokane meeting).—C. & C. Opr., Aug. 14, 1913; p 361; 12,000 w; 20c.

Chance, H. M.—*Mine Taxation.* (Paper read before Am. Mg. Cong.).—Coal Tr. Bull., Nov. 15, 1913; p 30; 2500 w; 25c.

Crain, G. D., Jr.—*Plant Depreciation at the Coal Mine.*—C. & C. Op., July 10, 1913; p 230; 2300 w; 25c.

Cremer, Oberbergrat.—*Bericht über eine Reise in der chinesischen Provinz Szetschuan;* [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Dobblestein, O.—*Wireless Telephone for Pit Use.* (Abstract from Gluckauf).—I. & C. Tr. Rev., London, June 6, 1913; p 928; 1500 w*; 35c.

Elwood, W. F.—*Efficiency Valuation of Fuels. Importance of Other Factors Than British Thermal Units and the Fusion Point of Ash.*—Colliery Engr., Aug., 1913; p 23; 1913; 2500 w*; 35c.

Flagg, Samuel B.—*Sub-Bituminous and Lignite Coal as Locomotive Fuel.* (Paper read before Int. Ry. Fuel Assn.).—Coal Tr. Bull., Nov. 15, 1913; p 46; 3500 w; 25c.

Griffith, William.—*Assessing and Taxing Coal in the Ground.*—Coll'y Engr., July, 1913; p 669; 2300 w; 35c.

Griffith, William.—*The Leasing of Mineral Lands.*—Colly. Engr., Oct., 1913; p 167; 1700 w; 35c.

Hirshberg, L. K.—*The Natural History of Coal.*—Coal Age, Sept. 20, 1913; p 406; 700 w; 20c.

Hornberger, J. B. L.—*Mining Accounting.* (Paper read before Am. Mg. Cong.).—C. & C. Opr., Oct. 30, 1913; p 581; 2500 w; 20c. Coal Age, Nov. 1, 1913; p 653; 2600 w; 25c.

Jones, R. C.—*Cost of Mining as Related to Coal Output.*—Colly. Engr., Oct., 1913; p 158; 3700 w*; 35c.

Jüngst, Dr.—*Deutschlands Kohlenverbrauch und seine Feststellung;* [Germany's coal consumption and its determination].—Kohle & Erz, June 30, 1913; p 650; 2500 w; 35c.

Jüngst, Ernst.—*Zur Methode der Feststellung des Kohlenverbrauchs;* [Methods for Determining Coal Consumption].—Glückauf, May 24, 1913; p 822; 1500 w; 50c.

Kearton, C.—*The Assessment of Collieries in Great Britain.* (Paper read before Kent Branch of Natl. Assn. Colliery Mgrs.).—Iron & Coal Tr. Rev., Nov. 7, 1913; p 722; 2000 w; 35c.

Lamplough, F. E. E.—*The Slow Combustion of Coal Dust and Its Thermal Value.* (Paper read before Inst. Mg. Engrs., London).—I. & C. Tr. Rev., London, June 6, 1913; p 915; 4800 w; 35c.

Lord, N. W.—*The Value of Coal Analyses.* (Abstract of address on Fuels of the United States).—Colly. Engr., Nov., 1913; p 242; 2400 w; 35c.

Lord, N. W., Holmes, J. A., Stanton, F. M. Fieldner, A. C., and Sanford.—*Analysis of Coals in the United States, with Descriptions of Mine and Field Samples Collected Between July* 1, 1904, *and June* 30, 1910.—Bull. 22, U. S. Bureau of Mines; Part 1—Analyses, 321 pp; Part 2—Description of Samples, 1200 pp.

McNeill, J. C.—*An Accounting System for Coal Companies.*—Coal Age, Sept. 20, 1913; p 414; 4300 w*; 20c.

Newton, Leonard V.—*Field Test of the Electric Locomotive.*—Colly. Engr., Oct., 1913; p 457; 1200 w*; 35c.

Norris, R. V.—*The Taxation of Coal Lands.* (Paper read before Am. Mg. Cong.).—Coal Age, Nov. 1, 1913; p 647; 2200 w; 25c.

Parker, E. W.—*The Costs and Profits in Coal Mining.* (Paper read before Am. Mg. Cong.).—Coal Age, Nov. 1, 1913; p 645; 579; 3000 w*; 20c. Colly. Engr., Dec., 1913; p 281; 2500 w; 35c.

Richards, W. B.—*The Origin and Deposition of Coal.* (Paper read before Panther Valley Mg. Inst.; abstract).—Mg. Engg., London, July, 1913; p 126; 3000 w*; 35c.

Rollason, A., and Taylor, A. W.—*The Production of Motor Spirits from Coal.*—Coll'y Engr., London, Sept. 19, 1913; p 577; 2500 w; 35c.

Rybák, O.—*Der Einfluss des Methans auf den menschlichen Organismus.* [The influence of methane on the human organism].—Montanist. Rundschau, No. 17, 1913; p 822; 1900 w; 35c

Rzehulka, A.—*Die Untersuchung der Steinkohle in der Praxis des Kokereibetriebes mit Gewinnung der Nebenprodukte.* [The examination of coal in coking with the recovery of by-products].—Zts. Oberschles, Berg. & Hüttenm. Vereins, June, 1913; p 243; 6000 w*; 50c.

Saward, Frederick W.—*World's Civilization Dependent Upon the Fuel Supply.* (Abstract of paper read before Mich.-Ohio-Ind. Coal Dealers' Assn.).—C. & C. Opr., June 19, 1913; p 165; 3500 w; 20c.

Shafroth, J. F.—*Administration of Public Mining Lands.* (Paper read before Am. Mg. Cong.).—Coal Age, Nov. 1, 1913; p 643; 2200 w; 25c.

Seddon, William.—*How to Protect Coal Mines from Natural Gas-Well Leakages.* (Paper read before Mine Foreman's Assn. Seventeenth Penn. Dist.).—C. & C. Opr., Nov. 6, 1913; p 605; 2500 w; 25c.

Simmersbach, Oskar.—*Chemische Umsetzungen während der Bildung der Steinkohle.* [Chemical tramspositions during the formation of coal].—Berg & Hüttenmännische Rundschau, Nov. 5, 1913; p 29; 4500 w; Nov. 20, 1913; p 43; 5000 w; 70c.

Simmersbach, Oskar.—*Ueber das Verhalten der flüchtigen Bestandteile der Kohle beim Erhitzen;* [On the behavior of the volatile constituents of coal on heating].—Berg & Hüttenmännische Rundschau, May 20, 1913; p 197; 2800 w; 35c.

Smallwood, Julian C.—*Heat Balance of a Gas Producer.*—Power, June 24, 1913; 3500 w*; 20c.

Whigman, William.—*Fuel Possibilities in Manufacture of Steel.* (Paper read before Am. Iron & Steel Inst.).—Iron Trade Rev., Dec. 18, 1913; p 1097; 6000 w; 25c.

Winmill, T. F.—*The Absorption of Oxygen by Coal.* (Paper read before Inst. Mg. Engrs., Manchester).—Colly. Guard., London, Sept. 26, 1913; p 625; 7000 w*; 35c. Iron & Coal Tr. Rev., Sept. 26, 1913; p 485; 6500 w*; 35c.

———. *A Review of the West Virginia [Coal Strike] Inquiry.*—Coal Age, July 5, 1913; p 14; 1200 w; 20c.

———. *Coal Competition* (Editorial).—Colliery Engr., Aug., 1913; p 2; 600 w; 35c.

———. *Coal Mines Operated Under Direction of U. S. Bureau of Mines.*—Mg. & Eng. World, June 21, 1913; p 1195; 2000 w; 10c.

——— *Conservation of Coal and Liquid Fuel.* (A resumé of papers read before Brit. Assn. for Advancement of Science).—Power, Oct. 21, 1913; p 564; 2700 w; 20c.

———. *Der Aussenhandel Frankreichs in Kohlen, Koks und Brikets* 1908 *bis* 1912. [France's foreign trade in coal, coke and briquetts 1908 to 1912].—Montanist. Rundschau, July 1, 1913; p 632; 600 w; 35c.

———. *Der Kohlenverbrauch in der deutschen Metallindustrie.* [The coal consumption in the German metal industry].—Centralblatt Hütten & Walzwerke, July 15, 1913; p 387; 1500 w; 35c.

———. *La Combustion Dite Spontanée des Charbons et Leur Emmagasinage.* [The spontaneous combustion and storage of coal].—La Metallurgie, May 21, 1913; p 400; 2000 w; 35c.

——— *La Legislation Minière en France.* [Mining legislation in France].—Bull. Soc. Amicale Douai, Aug. 10, 1913; p 542; 450 w; 35c.

———. *New Mining Law in Missouri* (Editorial).—Colliery Engr., Aug., 1913; p 3; 500 w; 35c.

———. *Spontaneous Combustion in Coal Mines.* (Evidence given before Committee of Investigation in Great Britain).—Iron & Coal Trade Rev., Dec. 5, 1913; p 880; 4500 w; 35c.

———. *The New Mining Law of Colorado* (Editorial).—Coal Age, July 12, 1913; p 57; 1200 w; 20c.

——— *The Proper Utilization of Coal and Fuels Derived Therefrom.* (Discussion before Sec. B, British Association).—I. & C. Tr. Rev., Sept. 19, 1913; p 458; 600 w; 35c.

——— *Ton, Zement und Kalk in der Bergwerk und Hüttenindustrie.* [Clay, cement and lime in the mining and metallurgical industries].—Tonindustrie-Ztg., Aug. 14, 1913; p 1235; 1800 w; 35c.

Coal Briquetting

See Briquetting under Mill and Milling.

COKE AND COKING

Alford, Newell G.—*Improving Coke from Beehive Ovens.*—Coal Age, June 7, 1913; p 863; 3000 w*; 20c.

Ambrose, John E.—*Mining Natural Coke and Coal in Virginia.*—Coal Age, Nov. 8, 1913; p 686; 1400 w*; 25c.

Berthelot, Charles.—*Etude des Nouveau Systèmes de Condensation Goudronneuse du Gaz de Houille et de Production du Sulfate d'Ammoniaque.* [Study of the new systems of condensing tar from coal gas, and the production of ammonium sulphate].—Revue de Métallurgie, Aug., 1913; p 1010; 16,000 w*; Sept.; p 1065; 30,000 w*; $2.30.

Blauvelt, William H.—*Discussion of the By-product Coke Oven.* (Abstract of paper presented before Am. Iron & Steel Inst.).—Ir. Tr. Rev., June 26, 1913; p 1457; 1600 w; 25c.

Bolleau, John W.—*Probable Future of the Connellsville Coke Region.*—Black Diam., Dec. 6, 1913; p 20; 3000 w*; 30c.

Byers, W. L.—*Connellsville Coke-Selling Problems.*—Coal Age, June 7, 1913; p 872; 2300 w*; 20c.

Campbell, J. R.—*Manufacture and Character of Basic Coke.*—Coal Age, Dec. 13, 1913; p 894; 3200 w; 20c.

Chaney, W.—*Coke-Oven Carbonization.* (Abstract of paper read before Inst. Gas Engrs., London).—I. & C. Tr. Rev., June 27, 1913; p 1040; 5000 w*; 35c.

Coppée, Evence.—*The Manufacture of Coke in Belgium.* (Paper read before Iron & Steel Inst.; abstract).—Colly. Guard., London, Sept., 1913; p 488; 3000 w*; Sept. 12; 2500 w; 70c. Iron & Coal Tr. Rev., London, Sept. 5, 1913; 8000 w*; 30c. C. & C. Opr., Sept. 18, 1913; p 449; 2500 w; 20c.

Coyne, John.—*Genesis of Coke Manufacture.*—C. & C. Opr., June 21, 1913; p 167; 750 w; 20c.

Desmarets, M.—*La Récoupération de l'Ammoniaque du Gaz de Distillation de la Houille dans les Cokeries.* [The recovery of the ammonia from gas distilled from coal in coking plants].—Revue de Métallurgie, Aug., 1913; p 983; 10,000 w*; $1.15.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Evans, A. W.—*Tennessee's State Coke Plant at Petros.*—Coal Age, Nov. 29, 1913; p 801; 2000 w*; 20c.

Foster, J. R.—*Benham Coke Works, Wisconsin Steel Co.*—Coal Age, June 28, 1913; p 996; 900 w*; 20c.

Geismer, H. S., and Hancock, David.—*Beehive and Byproduct Coke in Alabama.*—Coal Age, June 7, 1913; p 879; 2600 w*; 20c.

Gevers-Orban.—*The Distillation of Tar in Metallurgical Practice.* (Paper read before Iron & Steel Inst. at Brussels).—Colly. Engr., London, Sept. 12, 1913; p 527; 1800 w*; 35c.

Gobiet, Alfred.—*Die Fabrikation des Benzols aus Koksofengasen.* [The manufacture of benzol from coke-oven gases].—Montanist. Rundschau, June 1, 1913; p 524; 1300 w; Aug. 1, 1913; p 728; 1800 w*; Aug. 16; p 772; 200 w*; $1.05.

Gocher, John W.—*Coking the Semibituminous Johnstown Coals.*—Coal Age, June 14, 1913; p 906; 3500 w*; 20c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hanson, H. J.—*Smelting Iron Electrically with Coke as Fuel.* [Norway].—Iron Tr. Rev., Dec. 4, 1913; p 1003; 2500 w*; 25c.

Helbig, A. B.—*Rauchdasanalyse und Koksverlust beim Drehrohrofen.* [Flue-gas analysis and coke loss in revolving tube furnace].—Tonindustrie-Ztg., July 26, 1913; p 1131; 1000 w; 35c.

Hetzel, F. W.—*Coke Crushing and Screening Plans.*—Coal Age, June 7, 1913; p 876; 1500 w*; 20c.

Illgen and Wollenhaupt.—*Die Schachtanlage VIII/IX der Zeche Constantin der Grosse;* [The shaft plant VIII/IX of the Constantine the Great Mine (Germany)] (Deals with the coking plant).—Glückauf, May 31, 1913; p 845; 2000 w*; 50c.

Keighley, Fred C.—*Selection of Coke Samples for Analysis.* (Paper read before Coal Mg. Inst. of Am.).—Coal Age, Dec. 13, 1913; p 890; 2000 w; 20c.

Korten, F.—*Das Verfahren von Still zur direkten Gewinnung des Teers und Ammoniaks aus Koksofengasen.* [The Still method for the direct recovery of tar and ammonia from coke-oven gases].—Glückauf, July 12, 1913; p 1102; 2000 w*; 50c.

Lord, Nathaniel Wright, and Demorest, Dana J.—*Metallurgical Analysis, Third Edition.*—New York, McGraw Hill Book Co.; 334 pp*; $2.50 (book).

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Meissner, C. A.—*Beehive and Byproduct Methods of Coke Manufacture Contrasted.* (Trans. Am. Iron & Steel Inst.; abstract).—Coal & Coke Opr., June 5, 1913; p 127; 2000 w; 20c.

Meissner, C. A.—*By-product Ovens for Manufacture of Coke.*—Ir. Tr. Rev., June 12, 1913; p 1351; 3500 w*; June 19, 1913; p 1412; 3000 w*; June 26, 1913; p 1454; 3000 w*; 75c.

Meissner, C. A.—*Recovery of Byproducts in the Modern Byproduct Coke Oven Plant.* (Paper read before Am. Ir. & St. Inst.; abstract).—Met. & Chem. Engg., Aug., 1913; p 454; 4000 w*; 35c.

Mitchell, Guy E.—*Waste in Coking.*—Coll'y Engr., Sept., 1913; p 74; 3000 w*; 35c.

Parker, E. W.—*Coke Output in the United States in* 1912. (Advance report U. S. Geol. Surv.).—C. & C. Opr., July 3, 1913; p 217; 1800 w; 20c.

Parker, Edward W.—*The Manufacture of Coke in* 1912.—Advance chapter from Mineral Resources of U. S.; 64 pp.

Parr and Olin.—*Obtencion de Cok a Temperatura Poco Elevada.* [The production of coke at low temperature] (Abstract translation from Bull. of University of Illinois Experiment Station).—Revista Minera, Aug. 24, 1913; p 411; 2000 w; 35c.

Pierce, T. E.—*Semet-Solvay Coke Plant at Cleveland.*—Coal Age, June 7, 1913; p 868; 1200 w*; 20c.

Pishel, Max A.—*The Pishel Coking Test.*—Coll'y Engr., July, 1913; p 674; 6000 w*; 35c.

Reichel, J.—*Ueber die Gewinnung von Ammoniumsulfat mit Hilfe des in den Kokereigasen enthaltenen Schwefels.* [On the recovery of ammonium sulphate with the aid of the sulphur contained in coke-oven gases]. — Zentralblatt Kunstdünger-Ind., Sept. 1, 1913; p 364; 1200 w; 35c.

Ricks, E. C.—*Machinery for Beehive Coke Ovens.*—Coal Age, June 7, 1913; p 885; 1500 w*; 20c.

Rzehulka, A.—*Die Untersuchung der Steinkohle in der Praxis des Kokereibetriebes mit Gewinnung der Nebenprodukte.* [The examination of coal in coking with the recovery of by-products].—Zts. Oberschles. Berg. & Hüttenm. Vereins, June, 1913; p 243; 6000 w*; 50c.

Shurick, A. T.—*A New Device for Waste-Heat Recovery;* [In coke ovens].—Coal Age, June 7, 1913; p 870; 1500 w*; 20c.

Simmersbach, Oskar.—*Die Verkokung der Steinkohle bei niederer Temperature.* [The coking of coal at low temperature].—Berg & Hüttenmannische Rundschau, Oct. 5, 1913; p 1; 7000 w*; 35c.

Thau, A.—*Ammonia Stills in By-product Coke-Oven Plants.* (Abstract from Glückauf).—I. & C. Tr. Rev., June 27, 1913; p 1043; 5000 w*; 35c.

Thau, A.—*Ammonia Stills in By-Product Coke Oven Plant.* (Translation from Glückauf).—Ir. & C. Tr. Rev., London, July 4, 1913; p 1; 5000 w*; July 11, 1913; p 54; 6000 w*; 70c.

Thau, A.—*Die Entwickelung der Kokereigassauger;* [The evolution of the coking plant gas exhauster].—Glückauf, June 7, 1913; p 888; 5000 w*; 50c.

Thiry, Henry.—*Nouveaux Perfectionnements dans la Fabrication du Coke.* [Recent improvements in the manufacture of coke].—Revue de Métallurgie, July, 1913; p 811; 4200 w*; $1.15.

Wagener, Alf.—*Ueber einen neuen Apparat zur Abdichtung der Koksofentüren;* [A new apparatus for sealing coke-oven doors].—Bergbau, June 19, 1913; p 401; 1200 w*; 35c.

Watson, Thomas L.—*Mineral Production of Virginia in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 928; 600 w; 10c.

———. *A Portable Coal and Coke-Handling Machine.*—Ir. & C. Tr. Rev., London, May 30, 1913; p 889; 1000 w; 35c.

———. *Beiprodukte Rekuperativ-Koksöfen.* [By-product recuperative coke ovens].—Bergbau, June 26, 1913; p 417; 1800 w*; 35c.

——— *By-product Coking and Benzol Recovery.* (Pamphlet issued by the Koppers Co.).—Iron & Coal Tr. Rev., London, Oct. 24, 1913; p 652; 6500 w*; 35c.

——— *Coal Washing, Coke and Byproduct Plant at Barugh, England.*—Colly. Guard., London, Nov. 14, 1913; p 993; 6500 w*; 35c.

——— *Coke Making in China.*—M. & S. P., Dec. 27, 1913; p 1013; 650 w; 20c.

———. *Coke Works of the Connellsville Region;* [Gives names of works, names of operators, postoffice address and nearest railroad]. (From Connellsville Courier).—Coal Age, June 7, 1913; p 890; pp 2; 20c.

———. *Coppée By-product Coke-Oven Installation at Lancaster's Steam Coal Collieries, Cwmtillery, South Wales.*—I. & C. Tr. Rev., June 27, 1913; p 1033; 2500 w*; 35c.

——— *Cost of a 50-Coke-Oven Plant.*—Coal Age, Nov. 22, 1913; p 764; 1000 w; 20c.

———. *Der Aussenhandel Frankreichs in Kohlen, Koks und Brikets* 1908 *bis* 1912. [France's foreign trade in coal, coke and briquetts 1908 to 1912].—Montanist. Rundschau, July 1, 1913; p 632; 600 w; 35c.

——— *Die belgische Bergwerksindustrie im Jahre* 1912. [The Belgian mining industry in 1912].—Glückauf, Nov. 20, 1913; p 1981; 2400 w; 50c.

——— *Die Bergwerksindustrie in Frankreich und Algier in den Jahren* 1910 *und* 1911. [The mining industry in France and Algeria in 1910 and 1911]. (From report of Minister of Public Works, France).—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3; 1913; p 382; 4500 w; $1.50.

——— *Die Entwickelung der niederrheinisch-westfälischen Steinkohlenzechen im* 1. *Vierteljahr* 1913. [The development of the lower-Rhein-Westphalian coal mines.]—Glückauf, June 28, 1913; p 1023; 18,000 w; Aug. 23, 1913; p 1335; 7000 w; $1.

———. *Die oberschlesische Bergwerks- und Hüttenindustrie im Jahre* 1912; [The Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

——— *Ein verbesserter Nebenprodukt-Koksofen.* [An improved byproduct coke oven].—Kali, Erz & Kohle, Oct. 25, 1913; p 1071; 1200 w; 35c.

——— *Gas Exhauster for Coke Ovens.*—Colly. Engr., Dec., 1913; p 288; 1500 w*; 35c.

——— *Gewinnung von Nebenprodukten aus Steinkohlen in Japan.* [Recovery of by-products from coal in Japan].—Kali, Erz & Kohle, Dec. 15, 1913; p 1258; 800 w; 35c.

——— *Koppers Byproduct Coke Ovens at Llwynypia Colliery, South Wales.*—Iron & Coal Trade Rev., Dec. 5, 1913; p 873; 2500 w*; 35c.

——— *Production Houillère du Pas-de-Calais et du Nord.* [Coal production of the departments of Pas-de-Calais and Nord, France].—Bull. Soc. Amicale Douai, Aug. 10, 1913; p 534; 1200 w; 35c.

———. *The Production of Coke in Koppers Ovens at English Collieries* [Cumberland District].—Ir. Tr. Rev., July 24, 1913; p 161; 3000 w*; 25c.

PEAT

Condict, G. Herbert.—*Laboratory Tests on Peat by Vacuum Dewatering.*—Jnl. Am. Peat Soc., April, 1913; p 44; pp 3*; $1.35.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Parker, Edward W.—*Fuel Briquetting in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 10 pp.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *Report on Mining Operations in the Province of Quebec During the Year* 1912.—(See under Copper.)

MISCELLANEOUS FUELS

Allen, Irving C.—*Heavy Oil as Fuel for Internal Combustion Engines.*—Jnl. Elec., P. & G., July 26, 1913; p 88; 2800 w; 35c.

Barker, Perry.—*Distribution of Heat in the Operation of Boilers.* (Paper read before Inst. Chem. Engrs.; abstract).—Bl. Diam., July 26, 1913; p 18; 3200 w; 25c.

Barnhurst, H. R.—*The Wider Use of Pulverized Coal.* (Application to metallurgical furnaces).—Iron Age, Oct. 23, 1913; p 906; 3500 w*; 30c.

Barnhurst, H. R.—*The Use of Pulverized Coal as a Fuel for Metallurgical Furnaces.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; Oct. 23, 1913; p 906; 3500 w*; 30c. Iron & Coal Tr. Rev., London, Nov. 7, 1913; p 725; 280 w; 35c.

Becker, J., and Robertson, L. B.—*Production and Industrial Application of By-product Coke-Oven Gases.* (Paper read

before Chicago Sec. Am. Chem. Soc.).—Jnl. Ind. & Eng. Chem., June, 1913; p 491; 7000 w; 65c.

Clapp, Frederick G., and Huntley, L. G.—*Summary Report on the Petroleum and Natural Gas Resources of Canada.*—Reprint from Annual Summary Report of the Mines Branch of the Department of Mines, Canada; 14 pp.

Carpenter, R. C.—*The Use of Pulverized Coal as a Fuel for Boilers.*—Sibley Jnl. Engg., Dec., 1913; p 85; 9 pp*; 35c.

Edwards, Geo. E.—*Electric Power from Fuels at Mines.*—Mg. & Eng. World, Nov. 15, 1913; p 870; 3200 w*; 10c.

Elwood, W. F.—*Efficiency Valuation of Fuels. Importance of Other Factors Than British Thermal Units and the Fusion Point of Ash.*—Colliery Engr., Aug., 1913; p 23; 2500 w*; 35c.

Flagg, Samuel B.—*Sub-Bituminous and Lignite Coal as Locomotive Fuel.* (Paper read before Int. Ry. Fuel Assn.).—Coal Tr. Bull., Nov. 15, 1913; p 46; 3500 w; 25c.

Forbes, W. A.—*The Cleaning of Blast-Furnace Gas.* (Paper read before Am. Inst. Mg. Engrs.).—Ir. & C. Trades Rev., Nov. 1[illegible], 1913; p 759; 1900 w*; 35c.

Garland, C. M.—*A System of Burning Producer Gas.* (Abstract).—Iron Age, Sept. 25, 1913; p 664; 2000 w*; 30c.

Haldane, W. G.—*Crude Oil for the Assay Furnace.*—E. & M. J., Dec. 6, 1913; p 1073; 1200 w*; 25c.

Hetzel, F. V.—*Changing from Oil Fuel to Coal.*—Power, Dec. 2, 1913; p 803; 1500 w*; 20c.

Heym, W.—*Zusammenpressen feinen Materiales.* [Briquetting of fine materials].—Kali, Erz & Kohle, Aug. 15, 1913; p 807; 1000 w; 35c.

Hinrichsen, F. W., and Taczak, S.—*Verfahren zur Prüfung von Brennstoffen.* [Method for testing fuels].—Centralblatt Hütten & Walzwerke, July 5, 1913; p 367; 2300 w; 35c.

Hoffman, H. O.—*General Metallurgy.*—New York; McGraw-Hill Book Co.; 909 pp*; $6 (book).

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June 30, 1912.*—U. S. Dep. of the Interior; 88 pp.

Huessener.—*Points on Gas-Fired Boilers.*—I. & C. Tr. Rev., London, June 13, 1913; p 966; 4000 w*; 35c.

Johnson, J. E., Jr.—*The Iron Blast Furnace and the Characteristics of Its Fuels.*—Met. & Chem. Engg., Dec., 1913; p 687; 10,000 w; 35c.

Kessler, Dr. Paul.—*Das Urmaterial der brennbaren organogenen Ablagerungen;* [The original material from which combustible organic deposits were derived] (first part).—Technische Blätter, June 14, 1913; p 185; 2100 w; 35c.

Kessler, Paul.—*Das Urmaterial der brennbaren organogenen Ablagerungen;* [The primal source of the deposits of combustible organogen].—Technische Blätter, June 21, 1913; p 196; 1200 w; 35c.

Kneeland, Frank H.—*A Mammoth Central Power Plant.*—Coal Age, Dec. 6, 1913; p 846; 1200 w*; 20c.

Kreisinger, Henry, and Ray, Walter T.—*The Adaptation of Boiler Furnaces to Available Coals.*—Jnl. West. Soc. Engrs., Nov., 1913; p 819; 62 pp*; 65c. Bl. Diam., Aug. 9, 1913; p 18; 1500 w*; 25c.

Lamplough, F. E. E.—*The Slow Combustion of Coal Dust and Its Thermal Value.* (Paper read before Inst. Mg. Engrs., London).—I. & C. Tr. Rev., London, June 6, 1913; p 915; 4800 w; 35c.

Lang, Herbert.—*Oil-Burning in Furnaces.*—M. & S. P., July 12, 1913; p 64; 800 w; 20c.

Lewes, Vivian.—*Liquid Fuel.* (Abstract of lecture delivered before Royal Soc. of Arts).—I. & C. Tr. Rev., London, June 13, 1913; p 968; 2200 w; 35c.

Loring, W. J.—*Power on Mines.* [Notes on production of gas from wood, cost items].—Mg. Mag., Oct., 1913; p 278; 1600 w; 35c.

Lucke, Charles Edward.—*Design of Surface Combustion Alliances.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 801; 24 pp*; 65c.

Mackey, Wm. McD.—*Rapid Method of Testing Suction Gas Fuels for Liability to Clog Gas Engine Valves.*—Jnl. Soc. Chem. Ind., May 31, 1913; 1500 w; 65c.

Masselon, E.—*Épuration des Gaz de Hauts-Fourneaux.* [Purification of blast-furnace gas].—La Métallurgie, July 30, 1913; p 600; 700 w*; 35c.

Muench, G. W.—*Lignite as a Fuel for Gas Producers.*—Power, Sept. 9, 1913; p 366; 2600 w; 20c.

Parrish, J. E.—*Burning Anthracite Culm.*—Coal Age, Oct. 11, 1913; p 538; 1500 w*; 20c.

Perkins, W. B.—*Purchasers' Tests of Crude Fuel Oil.*—Power, Aug. 19, 1913; p 259; 1200 w*; 20c.

Porter, Horace G.—*A Study of the Oxidation of Coal and the Process of Combustion.* (Paper read before Am. Chem. Soc.).—Met. & Chem. Engr., Oct., 1913; p 543; 750 w; 35c.

Puning, Franz. — *Benzol: How It Is Recovered from Coal Gas.*—Iron Tr. Rev., Oct. 9, 1913; p 625; 6500 w*; 25c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Sampson, Charles C.—*Practical Operation of Gas Engines Using Blast-Furnace Gas as Fuel.* (Abstract of paper read before Am. Soc. Chem. Engrs.).—Engg. Rev., London, June 16, 1913; p 461; 6000 w*; 35c.

Saward, Frederick W.—*World's Civilisation Dependent Upon the Fuel Supply.* (Abstract of paper read before Mich.-Ohio-Ind. Coal Dealers' Assn.).—C. & C. Opr., June 19, 1913; p 165; 3500 w; 20c.

Scott, E. Kilburn.—*Large Prime Movers and Boilers for Power Houses.* (Paper read before Natl. Assn. of Colly. Mgrs.).—Iron & Coal Tr. Rev., London, Oct. 31, 1913; p 634; 7000 w*; 35c.

Smeeton, John A.—*Modern Gas Producers and Coal Economy in Melting and Heating Furnaces.*—Ir. & C. Tr. Rev., London, Aug. 9, 1913; p 260; 4500 w*; 35c.

Strohm, R. T.—*Oil Fuel for Steam Boilers.*—Mech. Wld., London, Nov. 21, 1913; p 243: 2400 w; 35c.

Strong, R. M., and Stone, L.—*Tests of Gasoline and Denatured Alcohol as Fuels for Engines.* (Abstract from Bull. 43, U. S.

Bur. Mines.).—Mg. & Eng. World, Dec. 27, 1913; p 1154; 700 w; 10c.

Teed, P. Litherland.—*The Determination of Water in Coal.* (Trans. Inst. Mg. & Met.; abstract).—Coll'y Guard., May 30, 1913; p 1115; 3000 w*; 35c.

Trautschold, Reginald. — *Jacket Water Temperatures and Fuel Consumption in Internal Combustion Engines.*—Can. Engr., June 19, 1913; p 871; 2000 w*; 35c.

Ventou-Duclaux, L.—*Emploi de la Naphtaline dans les Moteurs à Explosion.* [The use of naphthalene in explosion motors].—Revue Pratique Ind'l Metlgq., July, 1913; p 2; 1200 w*; 40c.

Walsh, George Ethelbert.—*Our Fuel Oil Supply.*—Cassiers Engg. Mthly., Sept., 1913; p 143; 4 pp; 25c.

Whigham, William.—*Fuel Possibilities in Steel Making.* (Paper read before Am. Iron & Steel Inst.).—Iron Age, Nov. 6, 1913; p 1056; 3500 w; 30c. Iron Trade Rev., Dec. 18, 1913; p 1097; 6000 w; 25c.

Winmill, T. F.—*The Absorption of Oxygen by Coal.* (Paper read before Inst. Mg. Engrs., Manchester).—Colly. Guard., London, Sept. 26, 1913; p 625; 7000 w*; 35c. Iron & Coal Tr. Rev., Sept. 26, 1913; p 485; 6500 w*; 35c.

——— *By-product Coking and Benzol Recovery.* (Pamphlet issued by the Koppers Co.).—Iron & Coal Tr. Rev., London, Oct. 24, 1913; p 652; 6500 w*; 35c.

——— *Conservation of Coal and Liquid Fuel.* (A resumé of papers read before Brit. Assn. for Advancement of Science).—Power, Oct. 21, 1913; p 564; 2700 w; 20c.

———. *Electrometallurgy in Scandinavia.*—E. & M. J., June 14, 1913; p 1203; 2000 w; 25c.

——— *Increasing Cost of Engine Fuel.* [Editorial].—Mg. & Eng. World, Oct. 4, 1913; p 384; 550 w; 10c.

——— *Progress in Fuel Utilization.* [Editorial].—M. & S. P., Oct. 25, 1913; p 638; 1000 w; 20c.

——— *The Proper Utilization of Coal and Fuels Derived Therefrom.* (Discussion before Sec. B, British Association).—I. & C. Tr. Rev., Sept. 19, 1913; p 458; 6000 w; 35c.

———. *The Purification of Blast Furnace Gases* (Report of a paper read before Mg. & Met. Sect. of Société Industrielle de l'Est by C. Herweg on Feld washer).—Met. & Chem. Eng., July, 1913; p 399; 3850 w*; 35c.

——— *The Use of Pulverized Coal as a Fuel for Metallurgical Furnaces.* [Discussion of paper read at New York meeting].—Trans. Am. Inst. Mg. Engrs., Dec., 1913; p 2857; 7 pp; 35c.

CHAPTER IX.

PETROLEUM AND NATURAL GAS.

PETROLEUM AND OILS

Oil Fields, Geology, Mining, etc.

Arnold, Ralph, and Clapp, Frederick G.—*Wastes in the Production and Utilization of Natural Gas and Means for Their Prevention.*—Tech. Paper 38, Petrol. Tech. 6, U. S. Bureau of Mines; pp 29.

Arnold, Ralph, and Garfias, V. R.—*Der Wasserabschluss in den Erdölbrunnen Kaliforniens durch Zementierung.* [Sealing off water in California oil wells by cementing] (Translation from Petroleum Rev.).—Zts. Internat. Vereines Bohringenieure, July 1, 1913; p 147; 2000 w; 35c.

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Brouard, Charles A.—*The Geology and Mining Possibilities of Northwestern Persia and Karadagh.*—Mg. Jnl., London, Nov. 29, 1913; p 1131; 3800 w; 35c.

Burroughs, William Greeley.—*The Pittsfield Oil Field.*—Mg. Mag., Nov., 1913; p 354; 8 pp*; 35c.

Clapp, Frederick G., and Huntley, L. G.—*Summary Report on the Petroleum and Natural Gas Resources of Canada.*—Reprint from Annual Summary Report of the Mines Branch of the Department of Mines, Canada; 14 pp.

Cochrane, T. G., and Redwood, I. C.—*Notes on Modern American Oil-Field Practice.*—Petr. Wld., London, Dec., 1913; p 572; 3500 w*; 35c.

Craig, E. H. Cunningham.—*The Oil Fields of Barbados.*—Petr. Wld., London, July, 1913; p 316; 3500 w; 35c.

Day, David T.—*The Production of Petroleum in the United States in* 1912. (Abstract from advance chapter Mineral Resources U. S.).—Mg. & Eng. World, Oct. 11, 1913; 1300 w; 10c.

Deustua, R. A.—*La Producción de Petróleo Durante* 1912. [The production of petroleum during 1912].—Inf. y Mem. Boletin Soc. Ing. Peru, April, 1913; p 185; 1100 w; 75c.

Donath, Ed., and Höfer, H. v.—*Das Erdölvorkommen in Raibl* (Kärnten). [The occurrence of petroleum in Raibl, Carinthia].—Petroleum, Aug. 20, 1913; p 1493; 3000 w; 60c.

Duestua, R. A.—*La producción de petrólo durante* 1912; [Production of Petroleum in Peru during 1912].—Informaciones y Memorias, April, 1913; p 185; 2000 w; 50c.

Eddy, Lewis H.—*California Oil Pipe Lines.*—E. & M. J., June 28, 1913; p 1299; 500 w; 25c.

Engler, C.—*Die Chemie und Physik des Erdöles.* [The chemistry and physics of petroleum].—Chemiker & Tech.-Ztg., July 1, 1913; p 99; 1600 w; 35c.

Fauck.—*Die Gefahr der Wassereinbrüche in Erdöl-Bohrungen;* [The danger of water breaking oil-well holes].—Zts. Internat. Vereines Bohringenieure, June 1, 1913; p 127; 300 w; 35c.

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand; 142 pp*.

Frentzol, Alexander.—*Die Erdöl, Bitumen und Schwefellager von Tetjuschi.* [The petroleum, bitumen and sulphur deposits of Tetjuschi, Russia].—Petroleum, June 4, 1913; p 1121; 5200 w*; 60c.

Gould, Chas. N.—*The Occurrence of Petroleum and Natural Gas in the Mid-Continent Field, United States.*—Petr. Wld., London, Sept., 1913; p 421; 4500 w; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Haley, Chas. S., and Rodegerdts, C. A.—*Prospecting Conditions in Peru.*—M. & S. P., Dec. 20, 1913; 6000 w*; 20c.

Hauptick, E. de.—*The Oil Outlook in Russia.*—Mg. Jnl., London, Oct. 18, 1913; p 983; 1600 w; 35c.

Hauptick, E. de.—*Russian Petroleum Industry.*—Mg. Jnl., Sept. 13, 1913; p 871; 700 w; Dec. 6, 1913, p 1171; 1600 w; 70c.

Hennen, Ray V., and Reger, David B.—*Detailed Geological Surveys of Marion, Monongahela and Taylor Counties, West Virginia.*—Report, W. Va. Geol. Survey; 844 pp* and maps; $2.50.

Hileman, C.—*Petroleum Developments in Argentina.*—Oil Age, July 11, 1913; p 2; 3000 w; 20c.

Higgins, W. F.—*Methods and Apparatus Used in Petroleum Testing.*—Paper read before Soc. Chem. Ind., London).—Jnl. of Soc. Chem. Ind., June 16, 1913; p 568; pp 6*; 65c. Petr. Wld., London, June, 1913; p 268; 6500 w*; July, 1913; p 324; 3000 w*; 70c.

Hirshberg, L. K.—*Chemical and Metallurgical Miscellany.*—Mg. & Eng. World, Dec. 13, 1913; p 1067; 2300 w; 10c.

Hood, O. P., and Heggem, A. G.—*Proposed Regulations for the Drilling of Gas and Oil Wells, with Comments Thereon.*—Tech. Paper 53, Petrol. Tech. 12, U. S. Bureau of Mines; 28 pp*.

Howard, J. C.—*Refining Crude Petroleum.* (Paper read before Utah Soc. Engrs.).—Oil Age, Aug. 8, 1913; p 2; 2000 w; 20c.

Hubbard, George D.—*Gas and Oil Wells Near Oberlin, Ohio.*—Economic Geol., Oct., 1913; p 681; 10 pp*; 65c.

Huntley, L. G.—*Possible Causes of the Declines of Oil Wells, and Suggested Methods of Prolonging Yield.*—Tech. Paper 51, Petroleum Tech. 11, U. S. Bureau of Mines; 32 pp*.

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Kantorowicz, H.—*Ueber Erdöl und Erdwachs* [On petroleum and mineral wax].—Chemiker-Ztg., Nov. 13, 1913; p 1394; 1800 w; Nov. 22, 1913; p 1438; 2500 w; 70c.

Krebs, C. E., and Teets, D. D., Jr.—*Detailed Geological Surveys of Cabell, Wayne and Lincoln Counties, West Virginia.*—Report, W. Va. Geol. Survey; 483 pp* and maps; $2.

Liwehr, Eugen.—*Neuerungen auf dem Gebeite der thermischen Erdolförderung.* [Inovations in the field of petroleum production from oil wells by the use of heat].—Petroleum, Oct. 15, 1913; p 81; 3200 w*; 60c.

Malcolm, Wyatt.—*Oil and Gas Prospects of the Northwest Provinces of Canada.*—Memoir No. 29-E, Canada Dep. of Mines, Geol. Survey; 99 pp*.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Parker, E. W.—*Ohio's Large Mineral Production in* 1912. (Abstract from Min. Res. of U. S., U. S. Geol. Survey).—Mg. & Eng. World, Nov. 29, 1913; p 979; 350 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Pascoe, E. H.—*Die Oelfelder von Birma.* [The oil fields of Burma] (Translated from Memoirs of Geol. Survey of India).—Chemiker & Tech.-Ztg., Oct. 15, 1913; p 153; 1000 w; 35c.

Purdue, A. H.—*The Minerals of Tennessee; Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp. 35c.

Redwood, B.—*Petroleum.* (Third edition revised and enlarged). Three volumes, 1214 pp. $15 (book).

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Rogers, A. P.—*The Byron Oil Field, Wyoming.*—E. & M. J., Nov. 8, 1913; p 869; 750 w; 25c.

Scheller, A.—*Destillation von Erdöldestillaten unter normalem Druck.* [Distillation of petroleum distillates under normal pressure] (From Bull. Soc. Encouragem. Ind.).—Chemiker-Ztg., July 31, 1913; p 917; 500 w*; 35c.

Simmersbach, Bruno.—*Neuere Entwickelungen in der amerikanischen Petroleumindustrie.* [Recent developments in the American petroleum industry].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 364; 6000 w; $1.50.

Sim, John, Jr.—*Petroleum; Its Genesis and Mining.* (Paper read before Scottish Fed. Inst. Mg. Students).—Iron & Coal Trade Rev., Dec. 5, 1913; p 878; 3750 w; 35c.

Smith, J. T.—*The New Oil Fields of the World.*—Petr. Wld., London, Oct., 1913; p 485; 3400 w; Nov., 1913; p 525; 2500 w; 70c.

Stopnewitsch, A.— *Die Erdöl-Industrie zu Grosnyi* 1912. [The petroleum industry at Grosny, Russia, 1912].—Zts. Internat. Vereines Bohringenieure, Nov. 15, 1913; p 257; 900 w; 35c.

Stopnewitsch, A. D.—*Erdgas und Erdöl im allgemeinen und zu Stawropol im besonderen.* [Natural gas and petroleum in general and at Stawropol, Russia, in particular].—Chemiker & Tech.-Ztg., July 1, 1913; p 98; 800 w; Sept. 1, 1913; p 132; 800 w; Sept. 15; 1000 w; Oct. 1; p 147; 600 w; Oct. 15; p 156; 1000 w; Nov. 1; p 164; 1000 w; Nov. 15; p 177; 900 w; $2.45.

Tanasescu, J., and Porucik, T.—*Die Statistik der rumänischen Bergwerksprodukte: Erdöl, Erdgas, Kohle und Salz;* [Statistics of the Roumanian mine products: Petroleum, natural gas, coal and salt] (From l'Annuaire de l'Institut Géologique de Roumanie).—Zts. Internat. Vereines Bohringenieure, June 15, 1913; p 133; 2000 w; 35c.

Thom, W. T.—*Record Mineral Production of the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Titus, R.—*Zur Verwässerungsfrage der Erdölfelder.* [Concerning the question of the drowning of oil fields].—Zts. Internat. Vereines Bohringenieure, July 15, 1913; p 159; 600 w; 35c.

Walsh, George Ethelbert.—*Our Fuel Oil Supply.*—Cassiers Engg. Mthly., Sept., 1913; p 143; 4 pp; 25c.

Wiebe, H. F.—*Die obere Brauchbarkeitsgrenze des Abel-Penskyschen Apparates und seine Vergleichung mit dem Penskyschen Flammenprüfer;* [The upper limits of usefulness of the Abel-Pensky apparatus and its comparison with the Pensky flame tester].—Petroleum, May 21, 1913; p 1061; 3000 w; 60c.

Wilson, H. W.—*Mexico's Oil Industry.* (British Consular Report).—Petr. Wld., Aug., 1913; p 372; 1800 w; 35c.

Wolf, J. H. G.—*California Oil Production for* 1913.—M. & S. P., Oct. 11, 1913; p 579; 1100 w; 20c.

Wrather, W. E.—*Recent Oil Developments in Texas and Louisiana.*—E. & M. J., Nov. 29, 1913; p 1007; 1000 w; 25c.

———. *Auf der Suché nach neuen Erdölfeldern in Nordamerika.* [On the search for new oil fields in North America] (Translated from Petroleum Rev.).—Zts. Internat. Vereines Bohringenieure, Sept. 15, 1913; p 215; 600 w; 35c.

——— *A Year's Development of the Trinidad Petroleum Fields.*—Petr. Wld., London, Nov., 1913; p 523; 2500 w; 35c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *California's Varied Mineral Production.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 890; 500 w; 10c.

——— *Das Erdöl-Vorkommen in Commodoro Rivadavia* (Argentinien). [The occurrence of petroleum in Commodoro Rivadavia, Argentina].—Petroleum, Sept. 17, 1913; p 1661; 9500 w; 60c.

———. *Das neue Djengi-Erdölfeld in Russland.* [The new Djengi petroleum field in Russia] (Abstracted from Petroleum Rev.).—Zts. Internat. Vereines Bohringenieure, July 1, 1913; p 153; 500 w; 35c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Der Prozess der Deutsch-Amerikanischen Petroleum-Gesellschaft gegen die Deutsche Petroleum-Verkaufs-Gesellschaft.* [The suit of the German-American Petroleum Co. vs. the German Petroleum Sales Co.].—Petroleum, June 4, 1913; p 1136; 1000 w; 60c.

——— *Die Erdölfelder von Birma.* [The oil fields of Burma].—Chemiker & Tech. Ztg., Nov. 1, 1913; p 163; 1100 w; Nov. 15, 1913; p 169; 1000 w*; 70c.

——— *Die Erdölindustrie Mexicos* 1912. [The petroleum industry of Mexico in 1912] (Translation into German from Bull. of Tiflis Phys. Observatory, Tiflis, Russia).—Zts. Internat. Vereines Bohringenieure, Sept. 1, 1913; p 201; 800 w; 35c.

——— *Die Kaukasische Petroleum-Industrie.* [The petroleum industry of the Caucasus] (From Oil & Couleur Trades Jnl.).—Chemiker & Tech-Ztg., Sept. 1, 1913; p 130; 1200 w; 35c.

——— *Die Minenindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

——— *Die Petroleum-Weltproduction des Jahres* 1912 *unter besonderer Berücksichtigung der Vereinigten Staaten.* [The world's petroleum production in 1912, with special reference to the United States].—Petroleum, Nov. 5, 1913; p 149; 6000 w; 60c.

——— *Die Petroleumindustrie in Rumänien im Jahre* 1912. [The petroleum industry in Roumania in 1912].—Montan-Ztg., Oct. 1, 1913; p 364; 4000 w; 35c.

——— *Die rumänische Petroleumindustrie im Jahre* 1912. [The Roumanian petroleum industry in 1912].—Bergwerks-Ztg., Aug. 2, 1913; p 1; 1200 w; 35c.

——— *Die rumänische Petroleum-Industrie.* [The Roumanian petroleum industry] (Translated from Le Pétrole).—Chemiker & Tech.-Ztg., Nov. 1, 1913; p 166; 500 w; 35c.

——— *Die tiefste Erdölbohrung der Erde.* [The deepest oil well in the world] (From Petroleum World).—Zts. Internat. Vereines Bergingenieure, Aug. 1, 1913; p 177; 500 w; 35c.

——— *Die Wirkung von Tonerde auf Erdöl.* [The action of alumina on petroleum] (Translated from Neftjanoje djelo).—Chemiker & Tech.-Ztg., Sept. 15, 1913; p 142; 600 w; 35c.

——— *Gewinnung der Bergwerks des Preussischen Staates im Jahre,* 1912. [Production of the mines of Prussia in 1912].—Glückhauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

———. *Kurze Geschichte der Petroleum Industrie Kanadas.* [A short history of the petroleum of Canada] (Translated from Oil, Paint & Drug Reporter).—Chemiker & Tech.-Ztg., July 1, 1913; p 102; 500 w; 35c.

——— *Illinois as a Mineral Producer.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 450 w; 10c.

——— *Indian Mines in* 1912. (Abstract from India Geol. Surv. report).—Mg. Jnl., Oct. 18, 1913; p 982; 1600 w; 35c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

——— *Le Pétrole en Roumanie.* [Petroleum in Roumania—Production in 1911 and 1912] (From report of the Belgian Legation at Bucharest).—Le Pétrole, June 20, 1913; p 3; 700 w; 35c.

——— *L'Exploitation Pétrolifère dans L'Argentine.* [Petroleum exploitation in Argentina].—Le Pétrole, Aug., 1913; p 5; 300 w; 35c.

——— *L'Industrie du Pétrole en Roumanie.* [The petroleum industry in Roumania—Statistics for the first quarter of 1913].—Le Pétrole, July 5, 1913; p 3; 500 w; 35c.

——— *L'Industrie du Pétrole en Roumanie.* [The petroleum industry in Roumania] (Abstract from a report of the Belgian legation at Bucharest).—Le Pétrole, Aug., 1913; p 1; 2300 w; 35c.

———. *Map of West Virginia, Showing Coal, Oil, Gas, Iron Ore, and Limestone Areas.*—W. Va. Geol. Surv.

———. *Mineral Industry in California in* 1912. (Report of California State Mining Bureau; abstract).—Mg. & Eng. World, July 5, 1913; p 8; 600 w; 10c.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 10c.

——— *Oil Development in Mexico.*—Petr. Wld., London, Sept., 1913; p 425; 2900 w; 35c.

———. *Oil Production in Peru.* (Abstract from Peru Today).—M. & S. P., Aug. 2, 1913; p 181; 250 w; 20c.

——— *Pétrole Colombia.* [Petroleum in Colombia] (Abstract from Vie Financière).—Le Pétrole, July 5, 1913; p 1; 1500 w; 35c.

———. *Petroleum Production in* 1912 *Greatest in History.*—Mg. & Eng. World, July 26, 1913; p 166; 400 w; 10c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, 1st Statistical Number, 1913; p 1; 40 pp; $1.50.

——— *Zur Geschichte und Entwickelung der Petroleumfelder in Burma.* [On the history and development of the petroleum fields in Burmah].—Petroleum, Aug. 20, 1913; p 1496; 5500 w; 60c.

Uses and Products

Charitschkow, R.—*Zur Teerbestimmung im Petroleum und seinen Derivaten.* [On the determination of tar in petroleum and its derivatives] (Translated from Neftjanoje djelo.)—Chemiker & Tech.-Ztg., Sept. 15, 1913; p 141; 800 w; 35c.

Day, David T.—*Asphalt Obtained from Oil.* (Abstract from Adv. chapt. Min. Res., U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 25, 1913; p 741; 500 w; 10c.

Engler, C., and Ubbelohde, L.—*Ueber das Edeleanusche Verfahren der Raffination von Erdöl mit Schwefeldioxyd;* [On the Edeleanu method for refining petroleum with sulphur dioxide] (From Zts. angewandte mie).—Petroleum, April 16, 1913; p 919; 3700 w*; 60c.

Gattnar, Josef.—*Die Naphthagesetzgebung in Oesterreich.* [Naphtha legislation in Austria].—Petroleum, June 4, 1913; p 1129; 2600 w; June 18, 1913; p 1190; 7000 w; $1.

Groeling, A. E. von.—*New Methods in the Utilization of Coal.*—Petr. Wld., Aug., 1913; p 380; 2300 w*; 35c.

Ogrodzinski, W., and Pilat, St. von.—*Molekulargewichtsbestimmungen bei Benzin.* [Molecular weight determinations of benzine].—Petroleum, June 8, 1913; p 1182; 1000 w; 60c.

Robinson, F. C.—*The Manufacture of Petroleum Products* (Paper read before Engrs.' Club of Philadelphia).—Met. & Chem. Eng., July, 1913; p 389; 5600 w*; 35c.

Scheller, A.—*Ueber Paraffin-Bestimmungen in Erdölen;* [On paraffine determinations in petroleum].—Petroleum, April 16, 1913; p 905; 800 w; 60c.

Thiele, F. C.—*Ueber Säureasphalt von der Erdölreinigung.* [On acid asphalt from the refining of petroleum].—Chemiker-Ztg., July 15, 1913; p 84; 900 w; 35c.

Waters, C. E.—*The Evaporation Test for Mineral Lubricating and Transformer Oils.*—Technologic Paper 13, Bureau of Standards, U. S. Dep. of Commerce and Labor; 13 pp.

Wild, Edward.—*Ueber Paraffin und seine Verarbeitung.* [On paraffin and its preparation].—Petroleum, June 18, 1913; p 1182; 3500 w; 60c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

———. *Cracking Distillation as a Means of Increasing the Supply of Gasoline* [includes in part, excerpts from paper by F. C. Robinson in Proc. of Engrs.' Club of Philadelphia].—Mg. Sci., July, 1913; p 41; 1500 w*; 35c.

———. *Statistik der Naphthaindustrie in Galizien im Jahre* 1912; [Statistics of the naphtha industry in Galicia in 1912].—Petroleum, May 7, 1913; p 995; 1000 w; 60c.

General and Miscellaneous

Allen, Irving C., and Crossfield, A. S.—*The Flash-Point of Oils.* (Bull. U. S. Bureau of Mines).—Petr. Wld., London, Sept., 1913; p 427; 10,000 w; 35c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmannische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Hetzel, F. V.—*Changing from Oil Fuel to Coal.*—Power, Dec. 2, 1913; p 803; 1500 w*; 20c.

Holde, D.—*Beziehungen zwischen den Temperaturen der Dämpfe und der siedenden Flüssigkeit bei Kohlenwasserstoffgemischen.* [Relations between the temperatures of the boiling liquid with hydro-carbon mixtures].—Petroleum, June 18, 1913; p 1186; 1000 w; 60c.

Paine and Stroud.—*Oil Production Methods.* 239 pp. $3 (book).

Strohm, R. T.—*Oil Fuel for Steam Boilers.*—Mech. Wld., London, Nov. 21, 1913; p 243; 2400 w; 35c.

Waters, Albert L.—*Experiments with an Oil-Burning Shaft Furnace.*—E. & M. J., Aug. 2, 1913; p 203; 2200 w*; 25c.

——— *Consumption of Fuel Oil by Railroads.*—Mg. & Eng. World, Oct. 25, 1913; p 733; 300 w; 10c.

——— *Der Flammpunkt der Oele.* [The flashing point of oils].—Chemiker & Tech. Ztg., Nov. 15, 1913; p 171; 1000 w; 35c.

———. *Der Monopolgesetzentwurf nach den Beschlüssen der Leuchtölkommission;* [Outline of the monopoly law according to the decisions of the illuminating-oil commission].—Petroleum, April 16, 1913; p 915; 3500 w; 60c.

———. *Die Entwickelung der Monopolfrage;* [The evolution of the monopoly question].—Petroleum, April 16, 1913; p 906; 9000 w; May 7, 1913; p 966; 28,000 w; May 21; p 1069; 4000 w; June 4, 1913; p 131; 2000 w; June 18, 1913; p 1189; 1101 w; July 2; p 1300; 800 w; $2.40.

———. *Die Verkehrs- und Handelsvorchriften für das Petroleum in den einzelnen Ländern;* [Commerce and trade rules for petroleum in different countries].—Petroleum, May 21, 1913; p 1063; 5000 w; June 4, 1913; p 1134; 2700 w; Nov. 5, 1913; p 155; 4500 w; $1.80.

——— *Entwurf einer Polizeiverordnung über den Verkehr mit Mineralölen und Mineralölmischungen in Deutschland.* [Draft of a police regulation on the commerce with mineral oils and mineral-oil mixtures].—Petroleum, July 2, 1913; p 1249; 20,000 w; 50c.

——— *Les Valeurs de Pétrole sur le Marché Anglais.* [Petroleum prices on the English market. Some preliminary reflections].—Le Pétrole, Aug., 1913; p 7; 2000 w; 35c.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

——— *Oil for Water Navigation.* (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 841; 600 w; 10c.

———. *Regulation of Well Drilling through Coal.*—E. & M. J., July 26, 1913; p 151; 400 w; 25c.

——— *Regulations for Leasing Canadian Government Oil and Gas Lands.*—Oil Age, Nov. 28, 1913; p 1; 3000 w; 20c.

——— *The Origin of Petroleum.* (Abstracted from "Petroleum" by Boverton Redwood).—Ptr. Wld., London, Sept., 1913; p 416; 5000 w; 35c.

——— *Vorläufiger Bericht der Leuchtöl-Kommission des Reichstages zur Vorberatung des Entwurfs eines Gesetzes über den Verkehr mit Leuchtöl.* [Preliminary report of the illuminating-oil commission of the Imperial Diet (Germany) for the advance consideration of the draft of a law on the commerce with illuminating oil].—Petroleum, July 2, 1913; p 1282; 18,000 w; 50c.

NATURAL GAS

Arnold, Ralph, and Clapp, Frederick G.—*Wastes in the Production and Utilization of Natural Gas and Means for Their Prevention.*—Tech. Paper 38, Petrol. Tech. 6, U. S. Bureau of Mines; pp 29.

Burrell, George A., and Siebert, Frank M.—*The Condensation of Gasoline from Natural Gas.* (Paper read before Am. Chem. Soc.).—Chem. Engr., Sept., 1913; p 89; 4500 w; 35. Jnl. Ind. & Engg. Chem., Nov., 1913; p 895; 4500 w; 35c.

Burroughs, William Greeley.—*The Pittsburgh Oil Field.*—Mg. Mag., Nov., 1913; p 354; 8 pp*; 35c.

Clapp, Frederick G.—*Outline of the Geology of Natural Gas in the United States.*—Economic Geol., Sept., 1913; p 517; 26 pp*; 65c.

Gould, Charles N.—*Conservation in the Mid-Continent Field.*—Nat. Gas. Jnl., Oct., 1913; p 488; 5000 w; 35c.

Gould, Chas. N.—*The Occurrence of Petroleum and Natural Gas in the Mid-Continent Field, United States.*—Petr. Wld., London, Sept., 1913; p 421; 4500 w; 35c.

Hill, B.—*The Production of Natural Gas in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 61 pp.

Hood, O. P., and Heggem, A. G.—*Proposed Regulations for the Drilling of Gas and Oil Wells, with Comments Thereon.*—Tech. Paper 53, Petrol. Tech. 12, U. S. Bureau of Mines; 28 pp*.

Hubbard, George D.—*Gas and Oil Wells Near Oberlin, Ohio.*—Economic Geol., Oct., 1913; p 681; 10 pp*; 65c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Merriam, E. S., and Birchby, J. A.—*Methods for the Examination of Natural Gas for the Production of Gasoline.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 824; 4500 w; 65c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Seddon, William.—*How to Protect Coal Mines from Natural Gas-Well Leakages.* (Paper read before Mine Foreman's Assn. Seventeenth Penn. Dist.).—C. & C. Opr., Nov. 6, 1913; p. 605; 2500 w; 25c.

Stopnewitsch, A. D.—*Erdgas und Erdöl im allgemeinen und zu Stawropol im besonderen.* [Natural gas and petroleum in general and at Stawropol, Russia, in particular].—Chemiker & Tech.-Ztg., July 1, 1913; p 98; 800 w; 35c.

Tanasescu, J., and Porucik, T.—*Die Statistik der rumänischen Bergwerksprodukte: Erdöl, Erdgas, Kohle und Salz;* [Statistics of the Roumanian mine products: Petroleum, natural gas, coal and salt] (From l'Annuaire de l'Institut Géologique de Roumanie).—Zts. Internat. Vereines Bohringenieure, June 15, 1913; p 133; 2000 w; 35c.

———. *Criminal Waste of Natural Gas and Means to Prevent It.*—Nat. Gas. Jnl., Aug., 1913; p 380; 12,000 w; 25c.

——— *Die Vergeudung von Erdgas in Amerika und Schutzmittel dagegen.* [The waste of natural gas in America and means of protection against it] (Translated from Petroleum Rev.).—Chemiker & Tech.-Ztg., Sept. 15, 1913; p 137; 2000 w; Oct. 1; p 148; 1000 w; 70c.

——— *Erdgas in Ungarn.* [Natural gas in Hungary] (Translated from Petroleum Review).—700 w; 35c.

———. *Map of West Virginia, Showing Coal, Oil. Gas, Iron Ore, and Limestone Areas.*—W. Va. Geol. Surv.

———. *The Conservation of Natural Gas.* (Report of the Conservation Committee of Nat. Gas Assn.).—Nat. Gas Jnl., Aug., 1913; p 390; 6500 w; 25c.

———. *Waste of Natural Gas* (Abstract from Technical Paper 38, U. S. Bureau of Mines).—E. & M. J., July 26, 1913; p 160; 500 w; 25c.

ASPHALT

Day, David T.—*Asphalt Obtained from Oil.* (Abstract from Adv. chapt. Min. Res., U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 25, 1913; p 741; 500 w; 10c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Kantorowicz, H.—*Ueber Erdöl und Erdwachs.* [On petroleum and mineral wax].—Chemiker-Ztg., Nov. 13, 1913; p 1394; 1800 w; 35c.

Law, Leroy M.—*Empiracal Requirements in Asphalt Specifications.*—Jnl. Ind. & Engg. Chem., Dec., 1913; p 1021; 4000 w; 65c.

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Thiele, F. C.—*Ueber Säureasphalt von der Erdölreinigung.* [On acid asphalt from the refining of petroleum].—Chemiker-Ztg., July 15, 1913; p 84; 900 w; 35c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *Der Asphaltsee auf der Insel Trinidad und die Verwertung des Trinidad Asphaltes.* [The asphalt lake on the island of Trinidad and the utilization of Trinidad asphalt].—Bitumen, July 1, 1913; p 194; 700 w; 45c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 15, 1913; p 502; 3200 w; 35c.

——— *Gewinnung der Bergwerke des Preussischen Staates im Jahre* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 10c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—See under Lead.

BITUMENS

Bardwell, Carlos; Berryman, B. Arthur; Brighton, Thomas B., and Kuhre, Kenneth D.—*The Hydrocarbons of Utah.*—Jnl. Ind. & Engg. Chem., Dec., 1913; p 973; 4500 w; 65c.

Day, David T.—*The Production of Asphalt, Related Bitumens, and Bituminous Rock in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 12 pp.

Frentzel, Alexander.—*Die Erdöl, Bitumen und Schwefellager von Tetjuschi.* [The petroleum, bitumen and sulphur deposits of Tetjuschi, Russia].—Petroleum, June 4, 1913; p 1121; 5200 w*; 60c.

Graefe, Ed.—*Der Asphaltsee auf der Insel Trinidad und die Verwertung des Trinidadasphaltes;* [The asphalt lake on the island of Trinidad and the utilization of Trinidad asphalt] (From Zts. angew. Chemie).—Bergbau, June 12, 1913; p 391; 700 w; 35c.

Richardson, Clifford. — *Characteristics and Differentiation of Native Bitumens and Their Residuals.*—Jnl. Ind. & Chem., June, 1913; p 462; 6000 w; 65c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [German's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

———. *Der Asphaltsee auf der Insel Trinidad und die Verwertung des Trinidad-Asphaltes;* [The asphalt lake on the island of Trinidad and the exploitation of Trinidad asphalt].—Bitumen, June 16, 1913; p 178; 800 w; 45c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 15, 1913; p 502; 3200 w; 35c.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911]. (See under Gold).

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—See under Lead.

CHAPTER X.

STRUCTURAL AND CERAMICS.

STONE; SAND; GRAVEL

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (U. S. Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Burchard, Ernest F.—*The Stone Industry in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 112 pp*.

Coons, A. T.—*Increase in Slate Production in* 1912. (Abstract from advance chapter from Min. Res. of U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 2, 1913; p 204; 300 w; 10c.

Coons, A. T.—*The Production of Slate in* 1912.—Adv. chap. Mineral Resources of U. S., U. S. Geol. Surv.; 20 pp.

Dale, T. Nelson.—*The Commercial Qualities of the Slates of the United States and Their Localities.*—Advance chapter from Mineral Resources of U. S.; 17 pp*.

Dresser, John A.—*Reconnaissance Along the National Transcontinental Railway in Southern Quebec.*—Memoir 35, Canada Dept. of Mines, Geol. Surv.; 42 pp*.

Fay, Albert H.—*Quarry Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 46, U. S. Bureau of Mines; 32 pp.

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand; 142 pp*.

George, R. D.—*Common Minerals and Rocks, Their Occurrence and Uses.*—Bull. 6, Colo. Geol. Surv.; 406 pp*.

Hennen, Ray V., and Reger, David B.—*Detailed Geological Surveys of Marion, Monongahela and Taylor Counties, West Virginia.*—Report, W. Va. Geol. Surv.; 844 pp* and maps; $2.50.

Iddings, Joseph P.—*Igneous Rocks, Vol. II.*—New York: 694 pp*; $6 (book).

Krebs, C. E., and Teets, D. D., Jr.—*Detailed Geological Surveys of Cabell, Wayne and Lincoln Counties, West Virginia.*—Report, W. Va. Geol. Survey; 483 pp* and maps; $2.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Meuskens, Cl.—*Die Kalksandstein-fabrikation als Nebenbetrieb von Kaliwerken;* [Lime sandstone manufacture as a side industry of potash works].—Kali, May 15, 1913; p 239; 1300 w; 35c.

Parker, E. W.—*Ohio's Large Mineral Production in* 1912. (Abstract from Min. Res. of U. S., U. S. Geol. Survey).—Mg. & Eng. World, Nov. 29, 1913; p 979; 350 w; 10c.

Perkins, George H.—*Report of the State Geologist on the Mineral Industries and Geology of Vermont,* 1911-1912.—State Geologist; 269 pp*.

Read, Thomas T.—*Mining by Wholesale.* [Description of querry and crushing plant of the Thompkins Cove Stone Co., New York.]—M. & S. P., Sept. 6, 1913; p 368; 3500 w*; 20c.

Ries, Heinrich.—*Building Stones and Clay-Products, a Handbook for Architects.*—New York, 1912; 415 pp*; $3; (book).

Stone, Ralph W.—*The Production of Sand and Gravel in* 1912.—Advance chapter from Mineral Resources of U. S.; 18 pp.

Tupper, C. A.—*Lowering Furnace-Flux Costs.*—Mg. & Eng. World, June 28, 1913; p 1223; 3200 w*; 10c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Whitebeck, Ray Hughes.—*The Geography and Industries of Wisconsin.*—Bull. No. 26, Educational Series No. 3, Wis. Geol. & Nat. Hist. Survey; 94 pp*.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Illinois as a Mineral Producer.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 450 w; 10c.

——— *Schmelztemperaturen feuerfester Steine.* [Melting temperatures of fire-resisting stones].—Tonindustrie-Ztg., Sept. 18, 1913; p 1432; 1000 w; 35c.

LIME

Arit, H.—*Die Mineralschätze Tunisiens.* [The mineral wealth of Tunis].—Glückauf, July 19, 1913; p 1125; 4000 w*; 50c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (U. S. Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Duchez, J. E.—*La Fabrication de la Chaux pour Aciéres et les Fours a Chaux de Montgrignon, prés Verdun;* [Lime Burning for Steel-Making and Lime Kilns at Montgrignon]. — Revue Matériaux, May, 1913; p 73; 600 w*; June, 1913; p 89; 1600 w*; $1.50.

Eckel, Edwin C.—*Brown Iron Ores as Cavity Fillings.*—E. & M. J., July 5, 1913; p 1; 1400 w*; 25c.

Emley, Warren E.—*Manufacture of Lime.*—Tech. Paper No. 16, U. S. Bureau of Standards; 130 pp*.

Gregory, W. M.—*Geological Report on Arenac County, Michigan.*—Pub. 11, Geol. Series 8, Michigan Geological & Biological Survey; 146 pp*.

Kirkpatrick, W. C.—*Gas-Fired Lime Kilns.*—Rock Products, Nov. 22, 1913; p 28; 2500 w; 25c.

Lord, Nathaniel Wright, and Demorest, Dana J.—*Metallurgical Analysis, Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 (book).

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Mendheim, A.—*Ueber die Entwickelung der Gasöfen zum Brennen von Kalk;* [On the evolution of the gas furnace for burning lime].—Tonindustrie-Ztg., June 14, 1913; p 908; 3400 w*; 35c.

Merton, A. M.—*The Use of Lime in Cyanide Work.*—Mg. Sci., Sept., 1913; p 154; 4000 w*; 35c.

Meuskens, Cl.—*Die Kalksandstein-fabrikation als Nebenbetrieb von Kaliwerken;* [Lime sandstone manufacture as a side industry of potash works].—Kali, May 15, 1913; p 239; 1300 w; 35c.

Ries, Heinrich.—*Building Stones and Clay-Products, a Handbook for Architects.*—New York, 1912; 415 pp*; $3; (book).

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Siebner, E. O.—*Ueber Kalkstickstoff Industrie.* [On the lime-nitrogen industry].—Chemiker-Ztg., Sept. 4, 1913; p 1057; 1500 w; Sept. 9; 2000 w; 70c.

Spielmann, Alexander.—*Ueber Sprengarbeit in den Betrieben der Ton, Zement und Kalkindustrie.* [On the use of explosives in the clay, cement and lime industry] (Address before the German Asso. for the Clay, Cement and Lime Industry).—Zts. Schiess. & Sprengstoffw., Nov. 1, 1913; p 409; 3000 w; Nov. 15, 1913; p 428; 2500 w; 70c.

Stone, Ralph W.—*The Production of Lime in* 1912.—Advance chapter from Mineral Resources of U. S.; 20 pp.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Witte, R.—*Schotteröfen und Ofen zur Brennen von Brechschutt;* [Shafts for burning broken limerock].—Tonindustrie Ztg., May 24, 1913; p 791; 1200 w*; 35c.

———. *Analyzed Iron and Manganese Ores—Methods of Analysis.*—Circular No. 26, Bureau of Standards, U. S. Dep. of Commerce; 20 pp.

———. *Map of West Virginia, Showing Coal, Oil, Gas, Iron Ore, and Limestone Areas.*—W. Va., Geol. Surv.

———. *Missouri's Mineral Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1143; 500 w; 10c.

———. *National Lime Manufacturers' Association.*—Proceedings 11th Annual Meeting, pp 279*.

———. *Ton, Zement und Kalk in Dänemark;* [Clay, cement and lime in Denmark].—Tonindustrie-Ztg., June 10, 1913; p 881; 2000 w; 35c.

CEMENT

Andrews, W. H.—*Cement Materials and the Manufacture of Portland Cement in Montana.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2383; 5 pp; 35c.

Baar, Armand.—*Reinforced Pile Foundations for Blast Furnaces.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 37; 1500 w*; 35c.

Bailey, L. M.—*The Manufacture and Uses of Portland Cement.* (Paper read before Utah Soc. Engrs).—Jnl. Assn. Engg., Soc., Oct., 1913; p 222; 15 pp; 40c.

Bamber, H. K. G.—*Modern Methods in the Manufacture of Portland Cement.* (Paper read before Vancouver Branch of Canadian Soc. Civil Engrs.; abstract).—Engg. News, June 26, 1913; p 1318; 2500 w; 25c.

Barry and Jacobovics.—*Die Anwendung des Gefrier- und Zementierverfahrens beim Abteufen des Kalischachtes Wendland.* [The application of the freezing and cementation process in sinking the Wendland potash shaft, Germany].—Glückauf, Nov. 15, 1913; p. 1886; 3400 w*; 50c.

Bates, P. H., Phillips, A. J., and Wig, Rudolph J.—*Action of the Salts in Alkali Water and Sea Water on Cements.*—Technologic Paper No. 12, Bureau of Standards, U. S. Dep. of Commerce; 157 pp*.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (U. S. Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Burchard, Ernest F.—*The Cement Industry in the United States in* 1912.—Advance chapter from Mineral Resources of U. S.; 24 pp.

Coghlan, Rapier R.—*Blended or Sand-Cements;* [Results of the Study and Experience of the U. S. Reclamation Service]. Engg. News, June 19, 1913; p 1271; 5000 w; 25c.

Elwitz, E.—*Die Verwertung der Hochofenschlacke;* [The utilization of blast-furnace slag].—Glückauf, May 31, 1913; p 855; 2400 w*; 50c.

Feret, R.—*Sur l'Activité Relative des Grains de Ciment selon leur Degré de Finesse;* [Relative activity of Cement Grains according to Fineness].—Revue Matériaux, May, 1913; p 69; 2000 w; 75c.

Grünwald, B.—*Ein neues Verfahren zur Untersuchung und zum Studium des Portlandzements.* [A new method for the investigation and study of Portland cement].—Chemiker-Ztg., July, 1913; p 885; 1200 w; 35c.

Kalbhenn, Josef.—*Neuerungen auf dem Gebiete des Zementierverfahrens.* [Innovations in the cementing off of underground waters in shafts].—Bergbau, Aug. 7, 1913; p 513; 3000 w*; 35c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Merton, A. M.—*Mill Construction and Estimates of Costs.*—Mg. & Eng. World, Oct. 25, 1913; p 739; 2200 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Sale, L. E.—*Method and Cost of Manufacturing Sand Cement at the Lahontan Dam with Results of Tests of the Modified Cement.*—Engg. & Contr., Dec. 3, 1913; p 623; 6000 w*; 25c.

Smith, Charles A.—*The Southwestern Portland Cement Works.*—E. & M. J., Oct. 18, 1913; p 719; 2300 w*; 25c.

Spielmann, Alexander.—*Ueber Sprengarbeit in den Betrieben der Ton, Zement und Kalkindustrie.* [On the use of explosives in the clay, cement and lime industry] (Address before the German Asso. for the Clay, Cement and Lime Industry).—Zts. Schiess.

& Sprengstoffw., Nov. 1, 1913; p 409; 3000 w; Nov. 15, 1913; p 428; 2500 w; 70c.

Symms, Arthur.—*Preventing Roof Falls in Mines by Using Cement.*—Bl. Diam., June 21, 1913; p 91; 1500 w*; 30c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Walker, Sydney F.—*The Cementation Process for Sinking Shafts.*—Colly. Engr., Nov., 1913; p 234; 1600 w*; 35c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *California's Varied Mineral Production.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 890; 500 w; 10c.

——— *Cement Resources of the United States Are Important Factors.*—Mg. & Eng. World, Sept. 13, 1913; p 475; 500 w; 10c.

——— *Der Welthandel in Zement wärend der ersten 9 Monate des Jahres* 1913. [The world's cement trade during the first 9 months of the year 1913].—Tonindustrie-Ztg., Nov. 29, 1913; p 1876; 2000 w; 35c.

——— *Illinois as a Mineral Producer.* (Advance report U. S. Geol. Surv.)—Mg. & Eng. World, Nov. 15, 1913; p 884; 450 w; 10c.

——— *Michigan Shows Increased Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1147; 650 w; 10c.

———. *Mineral Industry in California in* 1912. (Report of California State Mining Bureau; abstract).—Mg. & Eng. World, July 5, 1913; p 8; 600 w; 10c.

——— *Missouri's Mineral Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1143; 500 w; 10c.

——— *Shaft-Sinking Cementation Process.*—Mg. & Eng. World, Oct. 15, 1913; p 705; 500 w*; 10c.

——— *Tests of Disintegration of Cement Mortars by Alkali Salts, Mine Water Acids and Lubricating Oils.*—Cement, Aug., 1913; p 251; 3000 w; 20c.

———. *Ton. Zement und Kalk in Dänemark:* [Clay, cement and lime in Denmark]. Tonindustrie-Ztg., June 10, 1913; p 881; 2000 w; 35c.

——— *Ton, Zement und Kalk in der Bergwerk und Hüttenindustrie.* [Clay, cement and lime in the mining and metallurgical industries]. — Tonindustrie - Ztg., Aug. 14, 1913; p 1235; 1800 w; 35c.

——— *United States Government Specifications for Portland Cement.*—Circular No. 33, Bureau of Standards, U. S. Dep. of Commerce; 28 pp*.

———. *Usines a Ciment et Procédés de Fabrication.* [Cement works and methods of manufacturing cement].—Revue des Matériaux, June, 1913; p 85; 1100 w*; July, 1913 p 104; 1100 w; Oct., 1913; p 155; 2700 w*; $2.25.

——— *Wirtschaftliche Vorteile durch Verwendung von Beton im Bergbau.* [Economic advantages in the use of concrete in mining].—Kali, Erz & Kohle, Dec. 15, 1913; p 1251; 1100 w; 35c.

CONCRETE

Alford, Newell G.—*Manure as a Protection for Concrete.*—Coal Age, June 21, 1913; p. 948; 1600 w*; 20c.

Allard, A. S.—*Concrete in Coal Mine Construction.* (Paper read at fuel conference, Urbana, Ill.; abstract).—Coal Age, June 14, 1913; p 918; 1300 w*; 20c.

Auryansen, Frederick.—*Some Recent Applications of Concrete in Railroad Work.*—Cement, Aug., 1913; p 241; 5000 w*; 20c.

Dickson, Robert H.—*Aligning Concrete Forms in Shaft.*—E. & M. J., Aug. 9, 1913; p 259; 600 w*; 25c.

Greenman, Russell S.—*Tests of Natural Concrete Aggregates.* (Paper read before Am. Soc. for Testing Materials).—Rock Products, July 22, 1913; p 28; 1800 w*; 25c.

Gregory, John.—*Use of Concrete at Collieries.* (Paper read before North Staffordshire Inst. of Mg. & Mech. Engrs.).—Colly. Engr., London, Aug. 29, 1913; p 293; 2700 w; 35c. Mg. Engg., London, Oct., 1913; 2200 w; 35c.

Kaufman, G.—*Zulässige Beanspruchung des Eisens im Eisenbeton;* [Permissible strains in re-inforced concrete].—Ton-industrue-Zeitung, May 31, 1913; p 832; 900 w; 35c.

Kellogg, L. O.—*Concrete Headframe with Fleeting Device.*—E. & M. J., Nov. 15, 1913; p 924; 1000 w*; 25c.

Mercer, H. T.—*Some Applications of Concrete Underground.* (Abstracted from Sch. of Mines Quarterly).—Canadian Mg. Engr., July 15, 1913; p 442; 4500 w*; 35c.

Merton, A. M.—*Mill Construction and Estimates of Costs.*—Mg. & Eng. World, Oct. 25, 1913; p 739; 2200 w; 10c

Petersen, O. G.—*Shaking Screens in a Concrete Tipple.*—Coal Age, June 21, 1913; p 958; 1200 w*; 20c.

Rice, Claude T.—*Concrete Shaft Station at the Wolverine Mine, Michigan.*—E. & M. J., Aug. 30, 1913; p 397; 1600 w*; 25c.

Rice, Claude T.—*Large Reinforced-Concrete Launder.*—E. & M. J., July 5, 1913; p 22; 1800 w*; 25c.

Seelye, Elwyn E., and Shurick, A. T.—*Colliery Practice in Concreting.* (Third article).—Coal Age, June 14, 1913; p 910; 2800 w*; 20c.

Talbot, Arthur N.—*Reinforced Concrete Wall Footings and Column Footings.*—Bull. 67, Univ. of Ill. Exp. Station; 114 pp*; 50c.

Talbot, Arthur N., and Slater, Willis A.—*Tests of Reinforced Concrete Buildings Under Load.*—Bull. 64, Univ. of Ill. Eng. Experiment Station; 104 pp*; 60c.

Tarr, S. W.—*Relining No.* 2 *Hamilton Shaft, Mich.* (Abstract of paper read before L. S. Mg. Inst.).—E. & M. J., Oct. 11, 1913; p 680; 3000 w*; 25c.

Tédesco, N. de.—*Cours de Ciment Armé a l'Usage de Tous;* [Reinforced concrete].—Revue Matériaux, May, 1913; p 75; 1500 w; 75c.

——— *A Home-Made Reinforced Concrete Factory Building.* (Description of the Nash Engineering Co.'s Building).—Iron Age, Nov. 20, 1913; p 1149; 2500 w*; 30c.

———. *Concrete Drop Shaft;* [Adams mine near Deerwood, Minn.].—E. & M. J., June 14, 1913; p 1194; 1100 w*; 25c.

——— *Concrete Piles for Strengthening Foundations of Blast Furnaces.*—Iron Tr. Rev., Oct. 16, 1913; p 681; 900 w*; 25c.

———. *Concrete Shaft Lining* (Translated from Annales des Mines de Belgique).

—Coal Age, June 21, 1913; p 950; 200 w*; 20c.

———. *Concrete Stringers in Steep Inclines.*—E. & M. J., June 28, 1913; p 1290; 600 w*; 25c.

———. *Concreting Methods in Michigan Copper Shafts.*—E. & M. J., July 12, 1913; p 66; 400 w*; 25c.

———. *Cost of Complete Concrete Construction.* (Abstract from Taylor and Thompson's Concrete Costs).—E. & M. J., June 28, 1913; p 1295; 800 w; 25c.

——— *Making Reinforced Concrete Specialties.*—Iron Age, Dec. 18, 1913; p 1377; 3800 w*; 30c.

——— *Reinforced Concrete Supports for Wire Ropeways.*—Engg. & Contr., Dec. 3, 1913; p 621; 600 w*; 25c.

———. *Reinforced Concrete Tailings Bin.*—E. & M. J., Aug. 16, 1913; p 305; 700 w*; 25c.

——— *Standard Specifications for Plain Concrete Floors.* (Adopted by the Am. Concrete Inst.).—Cement, Oct., 1913; p 291; 2500 w; 20c.

BRICK AND TILE

Marshall, Robert J.—*Points in Brick and Brick Construction.*—Canadian Engr., Oct. 9, 1913; p 545; 5000 w*; 35c.

Middleton, Jefferson, and Hance, J. H.—*Statistics of the Clay-Working Industries in the United States in 1912, with Notes on the Occurrence of the Different Varieties of Clay.*—Advance chapter from Mineral Resources of U. S.; 100 pp.

Rigg, Gilbert.—*The Deterioration of Firebricks During Service.*—Jnl. Ind. & Eng. Chem., July, 1913; p 549; 3250 w*; 65c.

——— *Die Untersuchung feuerfester Materialien.* [The investigation of refractory materials].—Eisen-Ztg., July 26, 1913; p 593; 1500 w; 35c.

CLAYS AND CERAMICS

Ashley, H. E.—*Technical Control of the Colloidal Matter of Clays.*—Tech. Paper No. 23, U. S. Bureau of Standards; 118 pp*.

Bleininger, A. V., Montgomery, E. T.—*Effect of Overfiring Upon the Structure of Clays.*—Tech. Paper No. 22, U. S. Bureau of Standards; 23 pp*.

Bolles, F. G.—*An Electric Drag-Line Installation in Clay Works.*—Br. & Clay Rec., July 15, 1913; p 171; 1800 w*; 25c.

Brown, G. H., and Montgomery, E. T.—*Dehydration of Clays.*—Tech. Paper No. 21, Bureau of Standards, U. S. Dep. of Commerce; 23 pp*.

Brown, G. H., and Murray, G. A.—*The Function of Time in the Vitrification of Clays.*—Tech. Paper No. 17, U. S. Bureau of Standards; 26 pp*.

Buehler, H. A.—*Mineral Output and Resources of Missouri in 1912.*—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Conrad, R., Jr.—*Südindische Tonindustrie.* [The clay industry of southern India].—Tonindustrie-Ztg., Sept. 2, 1913; p 1339; 1400 w*; Sept. 4; p 1347; 2200 w*; 70c.

Croft, Harry W.—*Refractories in the Iron and Steel Industry.* (Paper read before Am. Iron & Steel Inst.).—Iron Age, Nov. 20, 1913; p 1163; 7000 w*; 30c.

Gregory, W. M.—*Geological Report on Arenac County, Michigan.*—Pub. 11, Geol. Series 8, Michigan Geological & Biological Survey; 146 pp*.

Gunniss, W. H.—*Occurrence and Manufacture of Refractories in Montana.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2309; 3 pp; 35c.

Hennen, Ray V., and Reger, David B.—*Detailed Geological Surveys of Marion, Monongahela and Taylor Counties, West Virginia.*—Report, W. Va. Geol. Survey; 844 pp* and maps; $2.50.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June 30, 1912.*—U. S. Dep. of the Interior; 88 pp.

Keele, J.—*Field Examination and Testing of Clays.*—Canadian Engr., Dec. 11, 1913; p 844; 2800 w*; 35c.

King, Arthur F.—*Application of Steam Shovels to Clay Plants.*—Br. & Clay Rec., July 15, 1913; p 158; 700 w; 25c.

Krebs, C. E., and Teets, D. D., Jr.—*Detailed Geological Surveys of Cabell, Wayne and Lincoln Counties, West Virginia.*—Report, W. Va. Geol. Survey; 483 pp* and maps; $2

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year 1911.*—(See under Gold.)

Mehlhorn, F. — *Ueber Tongewinnung.* [Clay mining].—Tonindustrie-Ztg., July, 24, 1913; p 1115; 1200 w; 35c.

Middleton, Jefferson.—*Statistics of the Pottery Industry in the United States in 1912.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 16 pp.

Middleton, Jefferson, and Hance, J. H.—*Statistics of the Clay-Working Industries in the United States in 1912, with Notes on the Occurrence of the Different Varieties of Clay.*—Advance chapter from Mineral Resources of U. S.; 100 pp.

Parker, E. W., and Middleton, Jefferson.—*Clay Products of the United States, 1912, with Corresponding Totals for 1911.*—Table, U. S. Geol. Survey.

Perkins, George H.—*Report of the State Geologist on the Mineral Industries and Geology of Vermont, 1911-1912.*—State Geologist; 269 pp*.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrences and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp.

Ries, Heinrich.—*Building Stones and Clay-Products, a Handbook for Architects.*—New York, 1912; 415 pp*; $3; (book).

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Schobner, Franz.—*Füllkörper für Reaktionstürme und Wärmespeicher.* [Filling bodies for reaction towers and heat regenerators].—Tonindustrie-Ztg., Sept. 18, 1913; p 1429; 3000 w*; 35c.

Spielmann, Alexander.—*Ueber Sprengarbeit in den Betrieben der Ton, Zement und Kalkindustrie.* [On the use of explosives in the clay, cement and lime industry] (Address before the German Asso. for the Clay, Cement and Lime Industry).—Zts. Schiess. & Sprengstoffw., Nov. 1, 1913; p 409; 3000 w; Nov. 15, 1913; p 428; 2500 w; 70c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for 1912.*—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Watson, Thomas L.—*Mineral Production*

of Virginia in 1912.—Mg. & Eng. World, Nov. 22, 1913; p 928; 600 w; 10c.

Watts, A. S.—*Mining and Treatment of Feldspar and Kaolin in the Southern Appalachian Region.*—Washington, D. C.; Bulletin 53, U. S. Bureau of Mines; 170 pp*.

Whitebeck, Ray Hugnes.—*The Geography and Industries of Wisconsin.*—Bull. No. 26, Educational Series No. 3, Wis. Geol. & Nat. Hist. Survey; 94 pp*.

Zunke, O.—*Gaserzeuger in der Ziegelindustrie.* [Gas producers in the brick industry].—Tonindustrie-Ztg., Nov. 20, 1913; p 1813; 600 w*; 35c.

———. *Beobachtungen über die Wirkung des Druckes auf die Verglasung von Ton;* [Observations on the influence of pressure on the vitrification of clay.—Tonindustrie-Ztg., June 3, 1913; p 842; 300 w; 35c.

———. *Clay-Working Machines of the Past and Present.*—Brick & Clay Rec., July 15, 1913; p 135; 5000 w*; 25c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Illinois as a Mineral Producer.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 450 w; 10c.

———. *Mining Clay with Electricity.*—Excav. Engr., Aug., 1913; p 407; 2000 w*; 20c.

———. *Ton, Zement und Kalk in Dänemark;* [Clay, cement and lime in Denmark].—Tonindustrie-Ztg., June 10, 1913; p 881; 2000 w; 35c.

——— *Ton, Zement und Kalk in der Bergwerk und Hüttenindustrie.* [Clay, cement and lime in the mining and metallurgical industries]. — Tonindustrie - Ztg., Aug. 14, 1913; p 1235; 1800 w; 35c.

GYPSUM

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Stone, Ralph W.—*The Gypsum Industry in* 1912.—Advance chapter from Mineral Resources of U. S.; 15 pp.

Wittich, Ernesto, and Pastor y Giraud.—*Unos Cristales Gigantes de Yeso Procedentes de la Mina Naica, Chihuahua.* [Some gigantic crystals of gypsum from the Naica mines, Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 61; 1800 w*; $2.

CHAPTER XI.

OTHER NON-METALS.

ABRASIVES

Ball, Lionel C.—*The Amakie Sapphire Fields of Queensland.* (Abstract from Queensland Mg. Jnl.).—M. & S. P., July 26, 1913; p 151; 1000 w*; 20c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Hutchinson, W. Spencer.—*An Assay for Corundum by Mechanical Analysis.* (Abstract of paper read before Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 29, 1913; p 972; 600 w; 10c.

Katz, Frank J.—*The Production of Abrasive Materials in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 15 pp.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Miller, William J.—*New York Garnets.* (Abstract from Bull. No. 538 Univ. of State of N. Y.).—E. & M. J., Nov. 29, 1913; p 1016; 400 w; 25c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

ACIDS (MINERAL)

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Dreger, W.—*Nitrierung von Cellulose mit Säurewiedergewinnung.* [Nitration of cellulose with acid recovery].—Zts. Schiess & Sprengstoffw., Sept. 1, 1913; p 325; 2800 w*; 35c.

Gilchrist, Elizabeth, and Cummings, Alexander C.—*Notes on the Electrolytic Determination of Copper in Solutions Containing Nitric Acid.*—Trans. Faraday Soc., London, July, 1913; p 186; 50c.

Norton, Consul.—*La Grande Industrie Chimique de Belgique.* [The great chemical industry of Belgium] (Translation from U. S. Consular Report).—Le Phosphate, June 9, 1913; p 1200 w; 35c.

Oberhelman, G. O., and Browning, P. E.—*On the Preparation of Tellurous Acid and Copper Ammonium Tellurite.*—Am. Jnl. Sci., Oct., 1913; p 399; 2 pp; 65c.

Phalen, W. C.—*Sulphur, Pyrite and Sulphuric Acid.*—Am. Fert., Aug. 9, 1913; p 41; 16 pp; 35c.

Phalen, W. C.—*Sulphuric Acid Industry in the United States.* (Abstract from Min. Res. of U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 2, 1913; p 201; 2250 w; 10c.

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Stansbie, J. H.—*Note on the Electrolysis of Nitric Acid Solutions of Copper.*—Trans. Faraday Soc., July, 1913; p 11; 3 pp; 50c.

Wierum, H. F.—*Ore Bedding by the Tennessee Copper Co.*—E. & M. J., Sept. 6, 1913; p 435; 2800 w; 25c.

Wogrinz, A.—*Ueber die Verwendung von Methylorange als Indicator bei der Titration freier Schwefelsäure in Lösungen von Kupfervitrol.* [On the use of methyl orange as indicator in the titration of free sulphuric acid in solutions of copper sulphate].—Chemiker-Ztg., July 19, 1913; p 869; 400 w; 35c.

——— *Die Kunstdünger-Industrie Belgiens.* [The artificial-fertilizer industry of Belgium].—Zentralblatt Kunstdünger-Ind., July 1, 1913; p 272; 1500 w; 35c.

———. *The Ostwald Process for Making Nitric Acid from Ammonia.*—Met. & Chem. Eng., Aug., 1913; p 439; 5500 w*; 35c.

ASBESTOS

Cirkel, Fritz.—*Development of the Asbestos Mining Industry in Quebec.* (Extract from monograph, Dept. of Mines, Canada).—Canadian Mg. Jnl., Oct. 15, 1913; p 637; 3000 w; 35c.

Diller, J. S.—*The Production of Asbestos in* 1912.—Advance chapter from Mineral Resources of U. S.; 13 pp*.

Dresser, John A.—*Reconnaisance Along the National Transcontinental Railway in Southern Quebec.*—Memoir 35, Canada Dept. of Mines, Geol. Surv.; 42 pp*.

Hore, Reginald, E.—*Asbestos Mining in Quebec.*—Canadian Mg. Jnl., Oct. 15, 1913; p 633; 1800 w*; 35c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Woolsey, W. J.—*Notes on Asbestos Veins and the Mineral Nephrite.*—Canadian Mg. Jnl., Aug. 15, 1913; p 519; 750 w*; 35c.

———. *Der Bergbau in China, Konsularbezirk, Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 15, 1913; p 502; 3200 w; 35c.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

——— *Eighteenth Annual Report of the*

Rhodesian Chamber of Mines for the Year 1912.—Bulawayo; 136 pp.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

——— *Production of Asbestos in the United States in* 1912. (U. S. Geol. Surv. advance report; abstract).—Mg. & Eng. World, Oct. 11, 1913; p 648; 400 w; 10c.

——— *Report on Mining Operations in the Province of Quebec During the Year* 1912.—Dep. of Colonization, Mines & Fisheries, Quebec, Canada; 241 pp*.

BARYTES

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Dueñas, Enrique I.—*La Minería en Hualgayoc.* [Mining in Hualgayoc, Peru.].—Inf. y Mem. Boletin Soc. Ing. Péru, Jan., 1913; p 1; 1800 w; 75c.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden;* [Mining in grand duchy of Baden (Germany)] (First part).—Glückauf, June 14, 1913; p 932; 6000 w*; 50c.

Hill, James H.—*The Occurrence and Production of Barytes in the United States.* (Abstracted from Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 251; 500 w; 10c.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrences and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp.

———. *Missouri, Largest Producer of Barytes in the United States.*—Mg. & Eng. World, Sept. 13, 1913; p 475; 500 w; 10c.

BAUXITE

See also under Aluminum (Metals).

Parker, E. W.—*Arkansas as a Mineral Producer.* (Abstract of Survey report).—Mg. & Eng. World, Nov. 8, 1913; p 832; 300 w; 10c.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrences and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp.

DIAMONDS

See Gems.

FERTILIZERS

See also Potash; also Nitrates.

Arlt, H.—*Die Mineralschätze Tunisiens.* [The mineral wealth of Tunis].—Glückauf, July 19, 1913; p 1125; 4000 w*; July 26, 1913; p 1169; 7000 w*; $1.

Bell, John.—*Phosphate Deposits of Egypt,*—Mg. Jnl., London, Aug. 9, 1913; p 755; 1200 w; 35c.

Benker and Millberg.—*L'Excavation Mécanique des Fosses à Superphosphate et Notamment au Moyen de l'Appareil du Système Wenk.* [The mechanical excavation of superphosphate pits, especially by means of the apparatus of the Wenk system] (Communication to Soc d'Encouragement pour l'Industrie Nationale, France).—Le Phosphate, Aug. 4, 1913; p 733; 1500 w; 35c.

Brogdon, J. S.—*The Sampling of Fertilizers.*—Am. Fert., June 28, 1913; p 25; 1800 w*; 35c.

Brogdon, J. S.—*The Manufacture of Acid Phosphate.*—Am. Fertilizer, Sept. 6, 1913; p 25; 4000 w; 35c.

Cameron, Frank K.—*Kelp and Other Sources of Potash.*—Jnl. Franklin Inst., Oct., 1913; p 347; 37 pp*; 65c.

Elschner, C.—*The Island of Nauru.*—Am. Fert., Dec. 13, 1913; p 23; 1100 w*; 35c.

Fraenkel, Walter.—*Formation of Aluminium Nitride from Alumina.*—Am. Fert., Nov. 1, 1913; p 25; 8 pp; 35c.

Gale, H. S.—*Searles Lake Potash Deposits* (From advance Chap. Min. Res. of U. S.).—M. & S. P., July 12, 1913; p 56; 2300 w; 20c.

Gerke, Bergassessor.—*Ueber die Zukunft der deutschen Kaliindustrie.* [The future of the German potash industry].—Dergwerks-Ztf., Nov. 22, 1913; p 1; 1100 w; 35c.

Hundeshagen, Franz.—*Zur Alkalimetrie des Magnesium-Ammonium-Phosphates und Acidimetrie des Ammonium-Phosphor-Molybdats.* [On the alkalimetry of magnesium-ammonium phosphate and the acidimetry of ammonium-phosphor molybdate].—Zentralblatt Kunstdünger-Ind., May 15, 1913; p 205; 2600 w; 35c.

Jones, Charles Colcock.—*The Discovery and Opening of a New Phosphate Field in the United States.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2411; 27 pp*; 35c.

Koelichen, K.—*Ueber ein Jodvorkommen im Kalisalzlager.* [On an occurrence of iodine in potash salt deposits].—Kali, Sept. 15, 1913; p 457; 1800 w; 35c.

Matignon, Camille.—*Le Problème de la Fixation Industrielle de L'Azote.* [The problem of the industrial fixation of nitrogen] (Communication to the Soc. d'Encouragement pour l'Industrie Nationale).—Le Phosphate, Aug. 11, 1913; p 757; 1600 w; Aug. 18; p 783; 2100 w; Aug. 25; p 805; 2400 w; Sept. 1, 1913; p 829; 1600 w; $1.40.

Maynard, T. Poole.—*White Rock Phosphates of Decatur County, Tennessee.*—Resources of Tenn., July, 1913; p 161; 9 pp*; 25c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Mitscherlich, E. A., and Simmermacher.—*Zur Düngemittelanalyse.* [Concerning fertilizer analysis].—Zentral-Blatt Kunstdünger-Ind., Oct. 15, 1913; p 430; 1100 w; 35c.

Norton, Consul.—*Le Grande Industrie Chimique de Belgique.* [The great chemical industry of Belgium] (Translation from U. S. Consular Report).—Le Phosphate, June 9, 1913; p 1200 w; 35c.

Peacock, S.—*Aluminium Carbo-Nitride.*—Am. Fert., Aug. 9, 1913; p 25; 2800 w*; 35c.

Phalen, W. C.—*Potash Salts; Summary for* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 36 pp.

Phalen, W. C.—*Phosphate Industry in Florida in* 1912. (Abstracted from Mineral Resources of the U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 16, 1913; p 301; 1800 w; 10c.

Phalen, W. C.—*The Production of Phosphate Rock in* 1912.—Am. Fert., Aug. 23, 1913; p 41; 13 pp; 35c.

Phalen, W. C.—*The Production of Phosphate Rock in* 1912.—Advance chapter from Mineral Resources of U. S.; 24 pp.

Poizat, C. du.—*A Propos des Phosphates d'Egypte.* [Concerning the phosphates of Egypt].—Echo des Mines, Oct. 9, 1913; p 1027; 500 w; 35c.

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Sellards, E. H.—*A Preliminary Paper on the Florida Phosphate.*—Third Annual Report, Fla. State Geol. Survey; 25 pp*; 50c.

Sellards, E. H.—*Origin of the Hard Rock Phosphate Deposits of Florida.*—Fifth Annual Report Fla. State Geol. Survey; 58 pp*.

Serpek, O.—*Le Nitrure d'Aluminium et le Problème de l'Azote.* [Aluminum nitride and the nitrogen problem].—Jnl. du Four Electriq., June 15, 1913; p 265; 1800 w; July 1; p 289; 2000 w*; 70c.

Siebner, E. O.—*Ueber Kalkstickstoff Industrie.* [On the lime-nitrogen industry].—Chemiker-Ztg., Sept. 4, 1913; p 1057; 1500 w; Sept. 9; 2000 w; 70c.

Skinner, J. J., and Jackson, A. M.—*Alunite and Kelp as Potash Fertilizers.*—Circular 76, Bureau of Soils, U. S. Dep. of Agriculture; 5 pp.

Tofani, Giovanni.—*Fixation de l'Azote par le Ferro-Silicium.* [Fixation of nitrogen by ferro-silicon] (Abstract from Atti del Congresso delle Applicazioni Elettriche, Turin, Italy).—Jnl. du Four Electriq., Aug. 15, 1913; p 339; 500 w; 35c.

Tower, Walter S.—*The Nitrate Fields of Chile.* (Abstracted from Popular Sci. Mthly.).—M. & S. P., Sept. 27, 1913; p 495; 6500 w*; 20c.

Turrentine, J. W.—*Importance of Nitrogenous Fertilizers.*—Am. Fert., June 14, 1913; p 25; 4500 w; 35c.

Waggaman, Wm. H.—*A Report on the Phosphate Fields of South Carolina.*—Bull. No. 18, Bureau of Soils, U. S. Dep. of Agriculture; 12 pp*.

Washburn, Frank S.—*Agricultural Fertilizers from the Air in Relation to Water Power Development.* (Paper read before Natl. Conserv. Cong.).—Am. Fert., Dec. 13, 1913; p 39; 2700 w; 35c.

——— *A Propos de la Fabrication Electrique des Nitrates.* [Concerning the electric manufacture of nitrates] (Abstract from Jnl. Royal Soc. of Arts).—Jnl. du Four Electriq., Sept. 1, 1913; p 367; 1200 w; 35c.

——— *Der Salpetermarkt im ersten Halbjahr* 1913. [The saltpeter market in the first half of 1913].—Kunstdünger-Industrie, Aug. 1, 1913; p 323; 500 w; 35c.

———. *Die Kalivorkommen in Südwestdeutschland.* [The occurrence of potash in south-west Germany].—Zts. Internat. Vereines Bohringenieure, Oct. 1, 1913; p 225; 700 w; 35c.

——— *Die Kunstdünger-Industrie Belgiens.* [The artificial-fertilizer industry of Belgium].—Zentralblatt Kunstdünger-Ind., July 1, 1913; p 272; 1500 w; 35c.

——— *Die Möglichkeit der Auffindung von Kalilagern in Siebenbürgen.* [The possibility of discovering potash deposits in Siebenbürgen].—Zts. Vereines Bohringenieure, Sept. 15, 1913; p 214; 500 w; 35c.

———. *Phosphate Industry of Algiers.*—Am. Fert., June 28, 1913; p 44; 1500 w; 35c.

——— *Phosphate Production in the United States in* 1912. (Advance chapter from Min. Res. U. S.)—Mg. & Eng. World, Sept. 30, 1913; p 512; 450 w; 10c.

———. *Potash Importations Nearly* $15,000,000 *in* 1912. (Abstract from Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 254; 300 w; 10c.

———. *The American Fertilizer Hand Book,* 1913.—Philadelphia, 1913; 354 pp*; $1; (book).

——— *The Production and Consumption of Chemical Fertilizers in the World.* (Abstract from Publication of Agricultural Intelligence & Plant Diseases of the Internat. Inst. of Agriculture, Rome).—E. & M. J., Oct. 25, 1913; p 776; 500 w; 25c.

——— *Zur Geschichte der Stassfurter Kaliindustrie.* [On the history of the Stassfurt potash industry].—Kali, Erz & Kohle, Sept. 15, 1913; p 916; 1800 w; 35c.

FELDSPAR

Henglein, M.—*Der Bergbau im Grossherzogtum Baden;* [Mining in Grand duchy of Baden (Germany)] (First part).—Glückauf, June 14, 1913; p 932; 6000 w*; 50c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June* 30, 1912.—U. S. Dep. of the Interior; 88 pp.

Katz, Frank J.—*The Production of Feldspar and Quartz in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 11 pp. Abstract in Am. Fert., June 28, 1913; p 46; 3000 w; 35c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Watts, A. S.—*Mining and Treatment of Feldspar and Kaolin in the Southern Appalachian Region.*—Washington, D. C.; Bulletin 53, U. S. Bureau of Mines. 170 pp*.

Wright, Fred Eugen.—*A Graphical Plot for Use in the Microscopical Determination of the Plagioclase Feldspars.*—Am. Jnl. Sci., Nov., 1913; p 540; 3 pp; 65c.

———. *Feldspar Output in the United States in* 1912. (Advance report of U. S. Geol. Surv.).—Mg. & Eng. World, June 28, 1912; p 1234; 325 w; 10c.

FLUORSPAR

Burchard, Ernest F.—*The Production of Fluorspar and Cryolite in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 9 pp*.

FULLER'S EARTH

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June* 30, 1912.—U. S. Dep. of the Interior; 88 pp.

Middleton, Jefferson. — *The Production, Occurrence and Uses of Fuller's Earth* (Mineral Resources of U. S.).—Mg. & Eng. World, July 19, 1913; p 117; 700 w; 10c.

GEMS

Ball, Lionel C.—*The Amakie Sapphire Fields of Queensland.*—Queensland Mg. Jnl., May 15, 1913; p 233; 5000 w*; 35c. Ab-

stract in M. & S. P., July 26, 1913; p 151; 1000 w*; 20c.

Bellmann, E.—*Recovery and Treatment of Amber at Palmnicken, East Prussia.* (Abstract from Glückauf).—Mg. Jnl., London, July 26, 1913; p 722; 1300 w; 35c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Draper, David.—*The Origin of Diamonds.* —Mg. Mag., Sept., 1913; p 210; 2500 w; 35c.

Gamba, F. P.—*Emerald Fields of Colombia.*—M. & S. P., Aug. 30, 1913; p 345; 1000 w*; 20c.

Kunz, George Frederick.—*The New International Diamond Carat of 200 Milligrams.* —S. Af. Engg., Aug., 1913; p 31; 1200 w; 35c.

Levin, I. H.—*Synthesis of Precious Stones.* (Paper read at New York Soc. Am. Chem. Soc.).—Jnl. Ind. & Engg. Chem., June, 1913; p 495; 5500 w*; 65c. Chem. Engr., Aug., 1913; p 53; 5000 w; 35c.

Miller, William J.—*New York Garnets.* (Abstract from Bull. No. 538 Univ. of State of N. Y.).—E. & M. J., Nov. 29, 1913; p 1016; 400 w; 25c.

Stansbie, J. H.—*Diamond-Cutting Industry in South Africa.* (U. S. Consular report).—Mg. & Eng. World, Sept. 20, 1913; p 513; 1500 w; 10c.

Sterrett, Douglas B.—*Diamonds and Other Gems Mined in the United States* (From advance chap. Mineral Resources of U. S.). —M. & S. P., July 19, 1913; p 94; 500 w; 20c.

Sterrett, Douglass B.—*Production of Gems and Precious Stones in the United States in* 1912. (Abstract from Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, July 12, 1913; p 65; 800 w; 10c.

Stutzer, O.—*Ueberblick über die nutzbaren Lagerstätten Katangas.* [A survey of the useful deposits of Katanga, Belgian Congo].—Metall & Erz, Aug. 30, 1913; p 679; 3300 w*; 50c.

Surr, Gordon.—*Lapis-Lazuli in Southern California.*—Mg. & Eng. World, Dec. 27, 1913; p 1153; 1650 w; 10c.

Wittich, Ernesto, and Pastor y Giraud, Antonio.—*Reseña Acerca de los Topacios de Mexico.* [Description of the topazes of Mexico].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 53; 1500 w; $2.

——— *Artificial Diamonds.*—E. & M. J., Nov. 29, 1913; p 1031; 350 w; 25c.

——— *Die Mineninduslrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

———. *Dredging Operations in Brazil.* —M. & S. P., June 28, 1913; p 980; 800 w*; 20c.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——— *Flüssige Kohle und künstliche Diamanten.* [Liquid carbon and artificial diamonds].—Bergbau, Dec. 4, 1913; 3500 w; 35c.

——— *Imports of Precious Stones in* 1913.—Mg. & Eng. World, Dec. 6, 1913; p 1026; 250 w; 10c.

——— *Mining Operations in Montana in* 1913 *Greatest in State's History.*—Mg. & Eng. World, Dec. 20, 1913; p 1109; 650 w; 10c.

——— *Montana's Metal Production in* 1912. (Advance report U. S. Geol. Surv.). —Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

——— *Status of the Brasillian Diamond Industry.*—Mg. & Eng. World, Dec. 27, 1913; p 1150; 300 w; 10c.

——— *The Diamond-Bearing Alluvials of Schweizer-Reneke, Southwestern Transvaal.*—S. Af. Mg. Jnl., Sept. 20, 1913; p 65; 2800 w*; 35c.

——— *The German West African Diamond Fields.*—Mg. Jnl., London, July 26, 1913; p 726; 2000 w; 35c.

——— *The Mining Industry in South Africa.*—Mg. Jnl., London, Oct. 25, 1913; p 1005; 2500 w; 35c.

——— *Valuable Discoveries of Opal in Nevada.* (U. S. Geol. Surv. report; abstract).—Mg. & Eng. World, Oct. 4, 1913; p 601; 700 w; 10c.

GRAPHITE

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911]. (See under Gold.)

——— *Graphite Mining in Madagascar.* (British consular report).—Mg. Wld. & Engg. Rec., London, Sept. 20, 1913; p 343; 400 w; 35c.

——— *Le Graphite a Madagascar.* [Graphite in Madagascar] (Abstract from Jnl. Official, Madagascar Mines Service).— L'Echo des Mines, June 26, 1913; p 746; 600 w; 35c.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

———. *Production and Importation of Graphite in United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1196; 550 w; 10.

———. *Report on Mining Operations in the Province of Quebec During the Year* 1912.—(See under Copper.)

MICA

Dixon, Abner F.—*The Indian Mica Industry.* (Abstract of paper read before Am. Inst. Mg. Engrs.).—Mg. Jnl., London, June 21, 1913; p 609; 4100 w; 35c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June* 30, 1912. —U. S. Dep. of the Interior; 88 pp.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Purdue, A. H.—*The Minerals of Tennessee; Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp: 35c.

Schmid, Hug S. de.—*Der Glimmerbergbau in Kanada im Jahre* 1912. [Mica mining in Canada in 1912.] (Abstract from paper read before Canadian Mg. Inst.).—Tech-

nische Blätter, Oct. 18, 1913; p 391; 500 w; 35c.

Sterrett, Douglas B.—*The Production of Mica in 1912.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 15 pp.

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Third article).—M. & S. P., July 5, 1913; p 14; 3000 w; 20c.

———. *Mica: Its Production in the United States and Its Varied Uses.* (Advance report U. S. Geological Survey; abstract).—Mg. & Eng. World, June 14, 1913; p 1150; 1100 w; 10c.

———. *Mineral Imports of the United Kingdom.*—See under Copper.

——— *Report on Mining Operations in the Province of Quebec During the Year 1912.*—(See under Copper.)

NITROGEN

Siebner, E. O.—*Ueber Kalkstickstoff Industrie.* [On the lime-nitrogen industry].—Chemiker-Ztg., Sept. 4, 1913; p 1057; 1500 w; Sept. 9; 2000 w; 70c.

———. *Industrie de la fixation de l'Azote;* [Nitrogen fixation industry].—Journal du four Electriq., May 15, 1913; p 217; 2500 w; 35c.

———. *Nitrogen from the Air.*—Mg. Mag., London, June, 1913; p 406; 1550 w; 35c.

MAGNESITE

Liddell, Donald M.—*Magnesite Crucibles.*—E. & M. J., Sept. 13, 1913; p 503; 1000 w; 25c.

Verwey, A.—*Ueber die Probenahme und die Beurteilung von calciniertem Magnesit.* [On the sampling and valuation of calcined magnesite].—Chemiker-Ztg., July 8, 1913; p 813; 700 w; 35c.

Yale, Charles G., and Gale, Hoyt S.—*The Production of Magnesite in 1912.*—Advance chapter from Mineral Resources of U. S.; 9 pp.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

——— *Magnesite Production of California.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 6, 1913; p 421; 750 w; 10c.

——— *Production and Use of Magnesite.*—E. & M. J., Sept. 6, 1913; p 438; 400 w; 25c.

POTASH

Bentz, Bergassessor.—*Die Versorgung der Vereinigten Staaten von Nordamerika mit Kali.* [The potash situation in the United States of North America].—Glückauf, Aug. 16, 1913; p 1291; 4500 w; 50c.

Cameron, Frank K.—*Kelp and Other Sources of Potash.*—Jnl. Franklin Inst., Oct., 1913; p 347; 37 pp*; 65c.

Cameron, Frank C.—*Possible Sources of Potash in the United States.*—Am. Fert., July 12, 1913; p 25; 6500 w; 35c.

Cushman, Allerton S., and Coggeshall, George W.—*The Production of Available Potash from the Natural Silicates.* (Abstract of paper read before Int. Cong. of Appl. Chem.).—Chem. Engr., June, 1913; 221; 4500 w; 35c.

Görres, Dr.—*Vorschläge zur Verbesserung des Kaligesetzes;* [Proposals for the improvement of the potash law]. Bergwerks-Ztg., June 15, 1913; p 1; 2400 w; June 17; p 1; 2500 w; 35c.

Jänecke, Dr.—*Vorschläge zur Fortsetzung der van't Hoffschen Forschungen.* [Proposals for the continuation of the van't Hoff investigations].—Kali, Aug. 15, 1913; p 393; 2000 w*; 35c.

Koelichen, K.—*Ueber ein Jodvorkommen im Kalisalzlager.* [On an occurrence of iodine in potash salt deposits].—Kali, Sept. 15, 1913; p 457; 1800 w; 35c.

Leimbach, Gotthelf.—*Ueber die Anwendung elektrischer Schwingungen (drahtloser Telegraphie) zur Erforschung des Erdinnern, besonders im Kalibergbau.* [On the use of electric waves (wireless telegraphy) for the investigation of the earth's interior, especially in potash mining].—Kali, Sept. 1, 1913; p 433; 5500 w*; 35c.

Maenicke, Bergassessor.—*Die Verwendung von auswechselbaren Bohrschneiden im Kalibergbau.* [The use of changeable cutting edges for boring bits in potash mining].—Kali, Dec. 15, 1913; p 603; 2200 w*; 35c.

Meuskens, Cl.—*Stationäre Pumpenanlagen in Kaligruben.* [Stationary pumping plants in potash mines].—Kali, Aug. 1, 1913; p 377; 2000 w*; 35c.

Rohland, P.—*Die Endlaugen der Kaliwerke.* [The end liquors of potash works].—Chemiker-Ztg., Nov. 25, 1913; p 1448; 800 w; 35c.

Rosenkränzer, F.—*Das Kalivorkommen im Oberelsass.* [The occurrence of potash salts in upper Alsace].—Berg & Hüttenmännische Rundschau, Aug. 20, 1913; p 279; 4000 w*; 35c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

——— *Die Kalivorkommen in Südwestdeutschland.* [The occurrence of potash in south-west Germany].—Zts. Internat. Vereines Bohringenieure, Oct. 1, 1913; p 225; 700 w; 35c.

——— *Die Möglichkeit der Auffindung von Kalilagern in Siebenbürgen.* [The possibility of discovering potash deposits in Siebenbürgen].—Zts. Vereines Bohringenieure, Sept. 15, 1913; p 214; 500 w; 35c.

———. *Imports of Potash Salts in the United States.* (U. S. Geol. Surv. report).—M. & S. P., July 5, 1913; p 12; 500 w; 20c.

———. *Potash Production Assured.*—M. & S. P., June 14, 1913; p 888; 1600 w; 20c.

PYRITES

Dueñas, Enrique I.—*La Mineria en Hualgayoc.* [Mining in Hualgayoc, Peru].—Inf. y Mem. Boletin Soc. Ing. Peru, Jan., 1913; p 1; 1800 w; 75c.

Flores, Teodoro.—*Algunos Datos Relativos a la Mina de "La Delfina," Distrito de Bravos, Estado de Guerrero, Mex.* [Data relating to La Delfina mine, Bravos district, State of Guerrero, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 9; 2600 w*; $2.

Keppeler, Gustav.—*Vergleichende Röstversuche mit Feinkies von verschiedenem Schwefelgehalt.* [Comparative roasting ex-

periments with fine pyrites of various sulphur content].—Chemiker-Ztg., Oct. 7, 1913; p 1219; 2000 w; 35c.

Lindstädt, Bergassessor.—*Die Blei und Zinkerzlagerstätten der Provinz Guipúzcoa in Spanien mit besonderer Berücksichtigung*

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Offerhaus, C.—*Copperhill-Praxis im Verschmelzen von Kupfererzen nach dem Pyritverfahren.* [Copperhill practice in the smelting of copper ores by the pyritic method].—Metall & Erz, Nov. 8, 1913; p 863; 3000 w; 50c.

Phalen, W. C.—*Sulphur, Pyrite and Sulphuric Acid.*—Am. Fert., Aug. 9, 1913; p 41; 16 pp; 35c.

Purdue, A. H.—*The Minerals of Tennessee: Their Nature, Uses, Occurrence and Literature.*—The Resources of Tennessee, Oct., 1913; p 183; 48 pp; 35c.

Sznadjer, I. — *Schnelle Schwefelbestimmungsmethode in Kieselbränden.* [Quick method for determining sulphur in pyrites cinder].—Chemiker-Ztg., Sept. 16, 1913; p 1107; 300 w; 35c.

Watson, Thomas L.—*Mineral Production of Virginia in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 928; 600 w; 10c.

Whitman, Alfred R.—*The Vadose Synthesis of Pyrite.*—Econ. Geol., Aug., 1913; p 455; 14 pp*; 65c.

Whitman, Alfred R.—*Synthesis of Pyrite.* (Abstract from Calif. Jnl. of Tech.).—M. & S. P., Dec. 13, 1913; p 928; 1300 w; 20c.

Wilfley, C. R.—*Electrostatic Separation of Barstow Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—See under Gold.

———. *Elektromagnetische Aufbereitung.* [Electro-magnetic preparation of ores].—Montanist. Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

——— *Les Pyrites.* [Pyrites]. — Le Phosphate, Sept. 15, 1913; p 877; 1200 w; 35c.

QUARTZ

Eddingfield, F. T.—*Alteration and Enrichment in Calcite-Quartz-Manganese Gold Deposits in the Philippine Islands.*—Philippine Jnl. of Sci., April, 1913; p 125; 10 pp; 65c.

Katz, Frank J.—*The Production of Feldspar and Quartz in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 11 pp.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

SALINES

Aigner, August.—*Die Salzbergbaue in den Alpen von ihrem Beginne bis zur Jetztzeit;* [Salt mining in the Alps from its beginning to the present time].—Montanist. Rundschau, May 16, 1913; p 450; 1800 w; July 1. 1913; p 621; 2200 w; 70c.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Cremer, Oberbergrat. —*Bericht über eine Reise in der chinesischen Provinz Szetschuan;* [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry for the cultural and industrial development of a country with special reference to the German empire].—Berg & Hüttenmännische Rundschau, July 20, 1913; p 251; 6500 w*; 35c.

Free, E. E.—*Progress in Potash Prospecting in Railroad Valley, Nevada.* (Abstract from Monograph 11, U. S. Geol. Surv.).—M. & S. P., Aug. 2, 1913; p 176; 2800 w*; 20c.

Fry, Wm. H.—*Sections of Two Michigan Salt Wells.*—Jnl. Geol., May-June, 1913; p 320; pp 3; 75c.

Gale, H. S.—*Searles Lake Potash Deposits* (From advance Chap. Min. Res. of U. S.).—M. & S. P., July 12, 1913; p 56; 2300 w; 20c.

Gerke, Bergassessor.—*Ueber die Zukunft der deutschen Kaliindustrie.* [The future of the German potash industry].—Bergwerks-Ztf., Nov. 22, 1913; p 1; 1100 w; 35c.

Görgey, R.—*Ueber die Salzgesteine der Kalilager von Wittelsheim im Oberelsass;* [On the salt rocks of the potash deposit of Wittelsheim in upper Alsace, Germany].—Kali, July 1, 1913; p 320; 5400 w*; 35c.

Grout, John H.—*Russian Salt Industry.* (Abstract from Consular Report).—E. & M. J., July 12, 1913; p 55; 260 w; 25c.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden.* [Mining in the grand duchy of Baden, Germany].—Glückauf, June 21, 1913; p 974; 4800 w*; 50c.

Herbst, Prof.—*Die Gefäss-Schachtförderung (Skipförderung) und der deutsche Bergbau.* [Skip hoisting and German mining].—Glückauf, Aug. 2, 1913; p 1209; 5000 w*; Aug. 9; p 1245; 6000 w*; $1.

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru, No. 78; p 9; 72 pp; 75c.

Karau, Bergassessor.—*Die Geschichte des deutschen Kalibergbaus in den letzten 25 Jahren, verbunden mit einem Rückblick auf seine Entstehung und die Bildung der Kalisalzlagerstätten;* [The history of German potash mining in the last 25 years, together with a glance back at the origin and formation of the deposits of potash salts].—Kali, June 15, 1913; p 295; 2800 w; 35c.

Keppeler, Gustav.—*Vergleichende Röstversuche mit Feinkies von verschiedenem Schwefelgehalt.* [Comparative roasting experiments with fine pyrites of various sulphur content].—Chemiker-Ztg., Oct. 7, 1913; p 1219; 2000 w; 35c.

Lommatzsch, Heinr.—*Beitrag zum Stud-*

ium der Salzlagerstätten Hannovers; [Contribution to the study of the salt deposits of Hannover, Germany].—Kali, June 1, 1913; p 266; 2600 w*; 35c.

Martell, Paul.—*Das Salinenwesen in Ungarn, Bosnien und Herzegowina.* [The salines industry in Hungary, Bosnia and Herzegovina].—Kali, Nov. 15, 1913; p 561; Nov. 15, 1913; p 561; 5000 w; 70c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

Meuskens, Cl.—*Die Kalksandstein-fabrikation als Nebenbetrieb von Kaliwerken;* [Lime sandstone manufacture as a side industry of potash works].—Kali, May 15, 1913; p 239; 1300 w; 35c.

Milford, Leslie Russel.—*Recent Analyses of the Saratoga Mineral Waters.*—Jnl. Ind. & Eng. Chem., July, 1913; p 557; 1600 w*; 65c.

Norton, Consul.—*La Grande Industrie Chimique de Belgique.* [The great chemical industry of Belgium] (Translation from U. S. Consular Report).—Le Phosphate, June 9, 1913; p 1200 w; 35c.

Phalen, W. C.—*Potash Salts; Summary for* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 36 pp.

Phalen, W. C.—*The Production of Salt and Bromine in* 1912.—Advance chapter from Mineral Resources of U. S.; 25 pp.

Precht, H.—*Berechnung der Chlermagnesiummenge, welche bei der Verarbeitung von Kalirohsalzen als Endlauge gewonnen wird;* [Calculation of the amount of magnesium which is obtained as end liquor in the treatment of crude potash salts].—Kali, July 1, 1913; p 319; 1400 w; 35c.

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Riemann, Karl.—*Die deutschen Salzlagerstätten;* [The German salt deposits] (From R. W. Ztg.).—Montan-Ztg., June 1, 1913; p 206; 1000 w; 35c.

Rosenkränzer, F.—*Das Kalivorkommen im Oberelsass.* [The occurrence of potash salts in upper Alsace].—Berg & Hüttenmännische Rundschau, Aug. 20, 1913; p 279; 4000 w*; 35c.

Rozsa, Michael.—*Daten zur Kentnis des organischen Aufbaues der Stassfurter Salzablagerungen;* [Data on the knowledge of the organic origin of the Stassfurt salt deposits].—Kali, May 15, 1913; p 242; 3800 w*; 35c.

Schorrig, Ernst.—*Die Verwendung tragbarer electrischer Lampen im Bergwerksbetriebe, unter besonderer Berücksichtigung des Kalibergbaues.* [The use of portable electric lamps in mining with special reference to potash mining].—Kali, Nov. 1, 1913; p 537; 4000 w*; Nov. 13; p 753; 1000 w; 70c.

Sznajder, I.—*Schnelle Schwefelbestimmungsmethode in Kieselbränden.* [Quick method for determining sulphur in pyrites cinder].—Chemiker-Ztg., Sept. 16, 1913; p 1107; 300 w; 35c.

Tanasescu, J., and Porucik, T.—*Die Statistik der rumänischen Bergwerksprodukte: Erdöl, Erdgas, Kohle und Salz;* [Statistics of the Roumanian mine products: Petroleum, natural gas, coal and salt] (From l'Annuaire de l'Institut Géologique de Roumanie).—Zts. Internat. Vereines Bohringenieure, June 15, 1913; p 133; 2000 w; 35c.

Tower, Walter S.—*The Nitrate Fields of Chile.* (Abstracted from Popular Sci. Mthly).—M. & S. P., Sept. 27, 1913; p 495; 6500 w*; 20c.

Turrentine, J. W., Boss, W. H., Gardner, R. F., Merz, A. R., and Cullen, J. A.—*The Occurrence of Potassium Salts in the Salines of the United States.*—Bull. 94, Bureau of Soils, U. S. Dept. of Agriculture; 96 pp*.

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Third article).—M. & S. P., July 5, 1913; p 14; 3000 w; 20c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

———. *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

———. *Der Bergbau in China, Konsularbezirk Shanghai, im Jahre* 1911. [Mining in China, Shanghai consular district, in 1911].—Montan-Ztg., July 1, 1913; p 246; 2600 w; 35c.

——— *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Mineindustrie Colombiens.* [The mining industry of Colombia].—Bergwerks-Ztg., Aug. 5, 1913; p 1; 700 w; Aug. 6; p 1; 1200 w; Aug. 7; 1400 w; $1.05.

———. *Geschäftsbericht des Kali-Syndikats, Leopold-Stassfurt, über das Jahr* 1912. [Business report of the potash syndicate, Leopold-Stassfurt, through the year 1912].—Glückauf, June 21, 1913; p 988; 1500 w; 50c.

——— *Gewinnung der Bergwerke des Preuissischen Staates im Jahre* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

——— *Norgesalpeter.* [Norwegian saltpeter]. — Zentralblatt Kunstdünger-Ind., July, 1913; p 270; 2000 w; 35c.

———. *Potash Importations Nearly $15,000,000 in* 1912. (Abstract from Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 254; 300 w; 10c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—See under Lead.

——— *Zur Geschichte der Stassfurter Kalindustrie.* [On the history of the Stassfurt ptoash industry].—Kali, Erz & Kohle, Sept. 15, 1913; p 916; 1800 w; 35c.

SULPHUR

Blanquier, John.—*The Sulphur Industry of Sicily.* (Abstract from Boletin de la Sociedad Nacional de Mineria).—Mg. Jnl., London, June 28, 1913; p 633; 3000 w; 35c.

Cremer, Oberbergrat.—*Bericht über eine Reise in der chinesischen Provinz Szetschuan;* [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Davis, A. W.—*Melting Process Applied to Sulphur Mining in Texas.*—Mg. Sci., Aug., 1913; p 99; 4 pp*; 35c.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 10c.

Franklin, Frederick H.—*A Fusion Method for the Determination of Sulphur in Iron and Steel.*—Jnl. Ind. & Eng. Chem., Oct. 1913; p 839; 4000 w; 65c.

Frentzel, Alexander.—*Die Erdöl, Bitumen und Schwefellager von Tetjuschi.* [The petroleum, bitumen and sulphur deposits of Tetjuschi, Russia].—Petroleum, June 4, 1913; p 1121; 5200 w*; 60c.

Hall, William A.—*The Hall Ore Desulphurizing Process.*—E. & M. J., July 5, 1913; p 35; 2000 w; 25c.

Lang, Herbert.—*Common Sense of the Fume Question.*—M. & S. P., Aug. 30, 1913; p 341; 5000 w; 20c.

Liddell, Donald M.—*The Hall Desulphurizing Process.*—E. & M. J., July 12, 1913; p 50; 250 w; 25c.

Phalen, W. C.—*Sulphuric Acid Industry in the United States.* (Abstract from Min. Res. of U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 2, 1913; p 201; 2250 w; 2, 1913; p 209; 2700 w; 10c.

Phalen, W. C.—*Sulphur Pyrite and Sulphuric Acid.*—Am. Fert., Aug. 9, 1913; p 41; 16 pp; 35c.

Reichel, J.—*Ueber die Gewinnung von Ammoniumsulfat mit Hilfe des in den Kokereigasen enthaltenen Schwefels.* [On the recovery of ammonium sulphate with the aid of the sulphur contained in coke-oven gases] (From Glückauf).—Bergbau, July 31, 1913; p 498; 1000 w; 35c.

Reichel, J.—*Ueber die Gewinnung von Ammoniumsulfat mit Hilfe des in den Kokereigasen enthaltenen Schwefels.* [On the recovery of ammonium sulphate with the aid of the sulphur contained in coke-oven gases]. — Zentralblatt Kunstdünger - Ind., Sept. 1, 1913; p 364; 1200 w; 35c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

——— *Analyzed Irons and Steels—Methods of Analysis.*—Circular No. 14, Bureau of Standards, U. S. Dep. of Commerce; 15 pp.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

——— *Gewinnung der Bergwerke des Preussischen Staates im Jahre* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—See under Gold.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 25c.

———. *Siziliens Schwefelproduktion.* [Sicily's sulphur production].—Kunstdünger-Industrie, Sept. 15, 1913; p 390; 300 w; 35c.

——— *The White Island Sulphur Deposit, New Zealand.*—E. & M. J., Nov. 1, 1913; p 815; 900 w*; 25c.

TALC AND SOAPSTONE

Diller, J. S.—*Talc and Soapstone Production in* 1912. (Abstract from Adv. chapt. Min. Res., U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 25, 1913; p 737; 400 w; 10c.

Diller, J. S.—*The Production of Talc and Soapstone in* 1912.—Advance chapter from Mineral Resources of U. S.; 32 pp*.

Hafer, Claud. — *Pyrophyllite in North Carolina.*—E. & M. J., Oct. 4, 1913; p 624; 4200 w*; 25c.

McLeish, John.—*Annual Report on the Mineral Resources of Canada During the Calendar Year* 1911.—(See under Gold.)

MISCELLANEOUS NON-METALS (Unclassified)

Bellmann, E.—*Gewinnung und Verarbeitung von Bernstein in Palmnicken;* [The winning and preparation of amber in Palmnicken (Germany)].—Glückauf, June 14, 1913; p 925; 5500 w*; 50c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.* (See under Chemistry.)

Hafer, Claud. — *Pyrophyllite in North Carolina.*—E. & M. J., Oct. 4, 1913; p 624; 4200 w*; 25c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

Oberhelman, G. O., and Browning, P. E. *On the Preparation of Tellurous Acid and Copper Ammonium Tellurite.*—Am. Jnl. Sci., Oct., 1913; p 399; 2 pp; 65c.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Wdowiszewski, Henryk.—*Ein Beitrag zur volumetrischen Bestimmung des Phosphors im Stahl nach der Methode von Macagno.* [A contribution to the volumetric determination of phosphorous in steel according to the Macagno method].—Chemiker-Ztg., Sept. 6, 1913; p 1069; 2000 w; 35c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institute der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School Aachen]; Vol. 5; (book).

——— *Analyzed Irons and Steels—Methods of Analysis.*—(See under Iron & Steel.)

——— *Bergbau und Eisenindustrie Schwedens im Jahre,* 1912. [Mining and iron industry of Sweden in 1912].—Glückauf, Oct. 25, 1913; p 1772; 4500 w; 50c.

———. *Die Aussichten des Bergbaues in der Türkei.* [The outlook for mining in Turkey] (Translated from Mg. Jnl.).—See under Gold.

——— *Die Berg und Hüttenwerksproduktion Oesterreichs im Jahre* 1912. [The mining and metallurgical production of

Austria in 1912].—Montanistische Rundschau, Oct. 16, 1913; p 981; 2500 w; 35c.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die Bergwerksindustrie und Bergverwaltung Preussens im Jahre* 1912. [Prussia's mining industry and mine administration in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 403; 20,000 w; $1.50.

——— *Die Bergwerksindustrie in Frankreich und Algier in den Jahren* 1910 *und* 1911. [The mining industry in France and Algeria in 1910 and 1911] (From report of Minister of Public Works, France).—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3; 1913; p 382; 4500 w; $1.50.

——— *Die elektromagnetische Aufbereitung mit besonderer Berücksichtigung des Erzscheiders Bauart Ullrich.* [Electromagnetic ore preparation with special reference to the Ullrich ore separator].—Montanist. Rundschau, Nov. 16, 1913; p 1095; 2000 w*; 35c.

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

——— *Gewinnung der Bergwerke des Preussischen Staates im Jahre* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

———. *Mineral Industry in California in* 1912. (Report of California State Mining Bureau; abstract).—Mg. & Eng. World, July 5, 1913; p 8; 600 w; 10c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912]. —See under Lead.

———. *Silicon and Other Metalloids.*—Mg. & Eng. World, July 5, 1913; p 6; 250 w; 10c.

———. *Saltpetersäure from Luftstickstoff;* [Nitric acid from atmospheric nitrogen].—Südwestdeutsche Industrie-Ztg., April 12, 1913; p 223; 600 w; 35c.

PART II.

GEOLOGY AND MINERALOGY.

CHAPTER XII.

MINING GEOLOGY

See also under Ore Genesis.

Armstrong, L. K.—*The Orient Mining District, Washington.*—N. W. Mg. & Met., June, 1913; p 23; 8000 w*; 30c.

Arlt, H.—*Die Mineralschätze Tunisiens.* [The mineral wealth of Tunis].—Glückauf, July 19, 1913; p 1125; 4000 w*; July 26, 1913; p 1169; 7000 w*; 50c.

Bancroft, George J.—*The Geology of the Moffat Tunnel.*—Mg. Sci., July, 1913; p 23; 1900 w*; 25c.

Barneveld, Charles E. van.—*Iron Mining in Minnesota.*—Bull. 1, Minn. School of Mines Exp. Station; 215 pp*.

Barry and Jacobovics.—*Die Anwendung des Gefrier- und Zementierverfahrens beim Abteufen des Kalischachtes Wendland.* [The application of the freezing and cementation process in sinking the Wendland potash shaft, Germany].—Glückauf, Nov. 15, 1913; p 1886; 3400 w*; 50c.

Becker, Richard.—*Die Entstehung der natürlichen Steinkohle nach Versuchen von Dr. Bergius, Hannover.* [The origin of natural coal according to experiments of Dr. Bergius, Hannover, Germany].—Technische Blätter, Aug. 31, 1913; p 288; 900 w; 35c.

Biesel, Charles.—*Properties of Mines Co. of America.* (Abstract from annual report).—M. & S. P., June 14, 1913; p 903; 7000 w*; 20c.

Blackwelder, Eliot.—*Geology of the United States.* (Vol. VIII, Part 2, of the "Handbuch der Regionalen Geologie"). 258 pp. 11 marks (book).

Billingsley, Paul.—*The Southern Cross Mine, Mont.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2289; 11 pp*; 35c. Mg. & Eng. World, Nov. 1, 1913; p 781; 3200 w*; 10c.

Bolleau, John W.—*Geology of the Pittsburgh Coal Beds.* (Abstract of paper read before Coal Mg. Inst. of Am.).—C. & C. Opr., June 19, 1913; p 163; 1800 w; 20c.

Bouery, Pierre.—*A Journey to the Interior of Peru.*—M. & S. P., June 14, 1913; 6000 w*; 20c.

Brinker, Arthur C.—*Geology at Santa Eulalia, Chihuahua, Mexico.* (Abstract from annual report).—M. & S. P., June 14, 1913; 2200 w*; 20c.

Brouard, Charles A.—*The Geology and Mining Possibilities of Northwestern Persia and Karadagh.*—Mg. Jnl., London, Nov. 29, 1913; p 1131; 3800 w; 35c.

Brown, Geo. M.—*The McAlester Coal Field in Oklahoma.*—Coal Age, Aug. 2, 1913; p 153; 2600 w*; 20c.

Burroughs, William Greeley.—*The Pittsfield Oil Field.*—Mg. Mag., Nov., 1913; p 354; 8 pp*; 35c.

Butters, R. M.—*Permian or "Permo-Carboniferous" of the Eastern Foothills of the Rocky Mountains in Colorado.*—Bull. 5, Part 2, Colo. Geol. Surv.; 37 pp.

Cairnes, D. D.—*Portions of the Atlin District, British Columbia, with Special Reference to Lode Mining.—Memoir No.* 37, Canada Dep. of Mines, Geol. Survey Branch; 129 pp*.

Clapp, Frederick G.—*Outline of the Geology of Natural Gas in the United States.*—Economic Geol., Sept.,.1913; p 517; 26 pp*; 65c.

Clark, Wm., Bullock, Miller, Benjamin L., Stephenson, L. W., Johnson, B. L., and Parker, Horatio N.—*The Coastal Plain of North Carolina.*—Vol. 3, N. C. Geol. and Economic Surv.; 552 pp*.

Clifford, James O.—*Formation and Growth of Disseminated Copper Deposits.*—M. & M., June, 1912; p 221; 3500 w; 20c

Cole, Grenville A. J.—*Outlines of Mineralogy for Geological Students.* 309 pp. $1.60 (book).

Coleman, A. P.—*The Nickel Industry with Special Reference to the Sudbury Region, Ontario.*—Ottawa, Ont.; Monograph Canada Department of Mines, Mines Branch; 206 pp*.

Coleman, A. P.—*The Nickel Deposits of the Sudbury District, Ontario.* (Extracts from Guide Book No. 7, published for Int. Geol. Cong.).—Canadian Mg. Jnl., Sept. 1, 1913; p 552; 1300 w; 35c.

Coleman, A. P.—*The Moose Mountain Iron Range, Canada.* (Extracts from Guide Book No. 7, Geol. Surv. of Canada).—Canadian Mg. Jnl., Sept. 15, 1913; p 573; 1200 w; 35c.

Colledge, Alexander.—*Dredging for Tin in the Malay States.*—Mg. Mag., July, 1913; p 57; 2000 w*; 35c.

Collins, W. H.—*The Geology of Gowganda Mining Division.*—Memoir No. 33, Canada Dep. of Mines, Geol. Survey; 12 pp*.

Crane, W. R.—*Coal Resources of Alaska.* (Paper read before Am. Mg. Cong.).—Black Diam., Nov. 15, 1913; p 20; 2700 w; 25c.

Crawford, John, Jr.—*Electric Smelting as Conducted at Heroult, California.* (Abstract of address delivered before Mining Congress of Northern California and Southern Oregon).—M. & S. P., June 28, 1913; p 897; 4500 w; 20c.

Crawford, R. D.—*Geology and Ore Deposits of the Monarch and Tomichi Districts, Colorado.*—Bull. 4, Colo. Geol. Surv.; 317 pp*.

Cremer, Oberbergrat.—*Bericht über eine Reise in der chinesischen Provinz Szet-*

schen; [Report on a journey in the Chinese province of Szetschuan].—Zts. Berg, Hütten & Salinenw., 1913, Vol. 61, Part 1; p 49; 98 pp*; $1.50.

Darton, N. H.—*Buried Valley of Susquehanna River in Luzerne County, Pennsylvania.*—Jnl. Geol., Sept.-Oct., 1913; p 557; 7 pp*; 75c.

Donaldson, R. J.—*The Central Mine, Broken Hill, N. S. W.*—Mg. & Engg. Rev., Aug. 5, 1913; p 438; 5000 w*; 35c.

Donath, Ed., and Höfer, H. v.—*Das Erdölvorkommen in Raibl* (Kärnten). [The occurrence of petroleum in Raibl, Carinthia].—Petroleum, Aug. 20, 1913; p 1493; 3000 w; 60c.

Draper, David.—*The Origin of Diamonds.*—Mg. Mag., Sept., 1913; p 210; 2500 w; 35c.

Dresser, John A.—*Reconnaisance Along the National Transcontinental Railway in Southern Quebec.*—Memoir 35, Canada Dept. of Mines, Geol. Surv.; 42 pp*.

Elschner, C.—*The Island of Nauru.*—Am. Fert., Dec. 13, 1913; p 23; 1100 w*; 35c.

Emmons, W. H. and Harrington, G. L.—*A Comparison of Waters of Mines and of Hot Springs.*—Economic Geol., Oct., 1913; p 653; 17 pp*; 65c.

Foster, J. R.—*Benham Coke Works, Wisconsin Steel Co.*—Coal Age, June 28, 1913; p 996; 900 w*; 20c.

Free, E. E.—*Progress in Potash Prospecting in Railroad Valley, Nevada.* (Abstract from Monograph 11, U. S. Geol. Surv.).—M. & S. P., Aug. 2, 1913; p 176; 2800 w*; 20c.

Fry, Wm. H.—*Sections of Two Michigan Salt Wells.*—Jnl. Geol., May-June, 1913; p 320; pp 3; 75c.

Gamba, F. P.—*Emerald Fields of Colombia.*—M. & S. P., Aug. 30, 1913; p 345; 1000 w*; 20c.

Garrison, F. Lynwood.—*Agricola; An Appreciation.*—M. & S. P., Aug. 9, 1913; p 218; 5500 w*; 20c.

Gergius, F.—*Theory Regarding Process of Coal Formation.* (Translation from Montanistische Rundschau).—Coal Age, Nov. 29, 1913; 2000 w; 20c.

Gilbert, Chester G., and Pogue, Joseph E.—*The Mount Lyell Copper District of Tasmania.*—Reprint from Proc. U. S. Natl. Museum, Govt. Ptg. Office, Washington, D. C., 26 pp*.

Goodchild, J. H.—*Laterization in Minas Geraes, Brazil.*—Transactions Inst. Mg. & Met. Bull. No. 109; 16 pp*; 50c.

Gordon, C. H.—*Geology and Underground Waters of the Wichita Region, North-Central Texas.*—Water-Supply Paper 317, U. S. Geol. Surv.; 88 pp*.

Graton, L. C., and Murdoch, Joseph.—*Microscopic Investigation Applied to Geology* (From Trans. Am. Inst. Mg. Engrs.).—Mg. Sci., July, 1913; p 39; 900 w; 35c.

Gregory, Herbert E.—*Geologic Sketch of Titicaca Island and Adjoining Areas, Peru.*—Am. Jnl. Sci., Sept., 1913; p 187; 25 pp*; 65c.

Gregory, W. M.—*Geological Report on Arenac County, Michigan.*—Pub. 11, Geol. Series 8, Michigan Geological & Biological Survey; 146 pp*,

Green, Robert M.—*Cinnabor Deposits of New Zealand.*—Mg. Wld. & Engg. Rec., London, Nov. 8, 1913; p 559; 750 w; 35c.

Greenwall, George Harold.—*Der Kohlendistrikt von Iherria (Indien) und seine zukünftige Entwickelung;* [The Iharria coal district (India) and its future development]. (Abstract translation from paper read before North of England Inst. Mg. & Mech. Engrs.).—Technische Blätter, July 19, 1913; p 225; 1110 w; 35c.

Grout, F. F., Worcester, P. G., and Henderson, Junius.—*Reconnaissance of the Geology of the Rabbit Ears Region, Routt, Grand and Jackson Counties, Colorado.*—Bull. 5, Part 1, Colo. Geol. Surv.; 57 pp*.

Grout, Frank F.—*The Behavior of Cold Acid Sulphate Solutions of Copper, Silver and Gold with Alkaline Extracts of Metallic Sulphide.*—Econ. Geol., Aug., 1913; p 407; 27 pp; 65c.

Gwyn-Williams, R. H.—*Mining in Katanga, Central Africa.*—Mg. Jnl., London, Aug. 30, 1913; p 839; 3500 w*; 35c.

Hauptick, E. de.—*Year's Progress of the Russian Copper Industry.* (Abstract from London Mg. Jnl.).—Mg. & Eng. World, Dec. 27, 1913; p 1159; 1600 w; 10c.

Heap, R. R.—*A Geological Drainage Problem in Southwestern Missouri.*—E. & M. J., Dec. 27, 1913; p 1205; 6000 w*; 25c.

Henglein, M.—*Der Bergbau im Grossherzogtum Baden;* [Mining in grand duchy of Baden (Germany)].—Glückauf, June 14, 1913; p 932; 6000 w*; June 21, 1913; p 974; 4800 w*; $1.

Hennen, Ray V., and Reger, David B.—*Detailed Geological Surveys of Marion, Monongahela and Taylor Counties, West Virginia.*—Report, W. Va. Geol. Survey; 844 pp* and maps; $2.50.

Higgins, Will C.—*Mining Operations in the Alta District, Utah.*—S. L. Mg. Rev., July 30, 1913; p 9; 8750 w*: 25c.

Higgins, Will C.—*The Bingham Mines of the U. S. Mining Co., Utah.*—S. L. Mg. Rev., Nov. 15, 1913; p 11; 2500 w*; 25c.

Hore, Reginald E.—*Gold Deposits of the Porcupine District, Ontario.*—Econ. Geol., Aug., 1913; p 482; 7 pp*; 65c.

Hore, Reginald E.—*Kirkland Lake Gold Deposits, Ontario.*—Canadian Mg. Jnl., July 15, 1913; p 424; 4000 w*; 35c.

Hore, Reginald E.—*Magnetic Origin of Sudbury Nickel-Copper Deposits.* (Paper read before Canadian Mg. Inst.; abstract).—Canadian Mg. Jnl., July 15, 1913; p 437; 6500 w*; 35c.

Hore, Reginald E.—*On the Origin of the Porcupine Gold Deposits.* (Paper read before Canadian Mg. Inst.).—Canadian Mg. Jnl., Sept. 1, 1913; p 548; 4000 w; 35c.

Horwood, C. B.—*The Rand Banket and Its Gold Content.*—M. & S. P., Oct. 11, 1913; p 563; 6500 w*; Oct. 18, 1913; 9000 w*; Oct. 25, 1913; p 647; 6000 w*: Nov. 1, 1913; p 676; 3000 w; Nov. 8, 1913; 10,000 w*; Nov. 15, 1913; p 763; 8500 w*; Nov. 22, 1913; p 806; 7300 w*; Dec. 20, 1913; p 956; 10,500 w*; Dec. 27, 1913; p 1003; 14,000 w*; $1.80.

Hubbard, George D.—*Gas and Oil Wells Near Oberlin, Ohio.*—Economic Geol., Oct., 1913; p 681; 10 pp*; 65c.

Hudson, Joseph G. S.—*Sections of the Sydney Coal Fields, Cape Breton, Special Edition, International Geological Congress, Twelfth Session,* 1913.—Canada Dep. of Mines, Mines Branch; 6 pp, maps and plates; 50c.

Iddings, Joseph P.—*Igneous Rocks, Vol. II.*—New York: 694 pp*; $6 (book).

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Jones, Charles Colcock.—*The Discovery and Opening of a New Phospate Field in the United States.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2411; 27 pp*; 35c.

Johnston, John and Niggli, Paul.—*The General Principles Underlying Metamorphic Processes.*—Jnl. Geol., Sept.-Oct., 1913; p 481; 36 pp; Nov.-Dec., 1913; p 588; 36 pp; 75c.

Karau, Bergassessor.—*Die Geschichte des deutschen Kalibergbaus in den letzten 25 Jahren, verbunden mit einem Rückblick auf seine Entstehung und die Bildung der Kalisalzlagerstätten;* [The history of German potash mining in the last 25 years, together with a glance back at the origin and formation of the deposits of potash salts].—Kali, June 15, 1913; p 295; 2800 w; 35c.

Kellogg, L. O.—*Notes on the Cuyuna Iron Range, Minnesota.*—E. & M. J., Dec. 27, 1913; p 1200; 4000 w*; 25c.

Kemp, J. F.—*Artificial Vein Formation in the Tomboy Mill, Telluride, Colo.*—Economic Geol., Sept., 1913; p 543; 8 pp*; 65c.

Kessler, Dr. Paul.—*Das Urmaterial der brennbaren organogenen Ablagerungen;* [The original material from which combustible organic deposits were derived] (first part).—Technische Blätter, June 14, 1913; w; 70c; p 185; 2100 w; June 21, 1913; p 196; 1200 w; 70c.

Kindle, Edward M.—*The Unconformity at the Base of the Onondaga Limestone in New York and Its Equivalent West of Buffalo.*—Jnl. Geo., May-June, 1913; p 301; 19 pp*; 75c.

Klockmann, F.—*Die Blei und Zinklagerstätten Aachens.* [The lead and zinc-ore deposits of Aachen, Germany] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 686; 1400 w; 50c.

Klopstock, Paul.—*The Kennedy Mining District, Nevada.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 12, 1913; p 63; 3000 w; 10c.

Knopf, Adolph.—*Ore Deposits of the Helena Mining Region, Montana.*—Bull. 527, U. S. Geol. Surv.; 143 pp*.

Krebs, C. E., and Teets, D. D., Jr.—*Detailed Geological Surveys of Cabell, Wayne and Lincoln Counties, West Virginia.*—Report, W. Va. Geol. Survey; 483 pp* and maps; $2.

Kukuk, Bergassessor. — *Beitrag zur Kenntnis des untern Zechsteins im Niederrheingebiet.* [Contribution to the knowledge of the lower Zechstein in the lower-Rhein region].—Glückauf, June 28, 1913; p 1005; 1900 w*; 50c.

Kümmel, Henry B., and Vermeule, C. C.—*Annual Administrative Report of the State Geologist of New Jersey for the Year 1912, including a Second Report on Shark River Inlet.*—Bull. 8, Geol. Surv. of New Jersey; 103 pp.

Lakes, Arthur.—*The Coal Fields of Western Canada.*—Colliery Engr., Aug., 1913; p 11; 2500 w*; 35c.

Launay, M. de.—*De la Formation des Gites Métallifères.* [On the formation of metalliferous deposits].—L'Echo des Mines, June 5, 1913; p 650; 1200 w; 35c

Launay, M. de.—*The Formation of Metalliferous Deposits.* (Abstract of lecture delivered before Société de l'Industrie Minerale).—Mg. Jnl., London, June 28, 1913; p 635; 1600 w; 35c.

Lawson, Andrew C.—*The Gold of the Shinarump at Paria.*—Econ. Geol., Aug., 1913; p 434; 15 pp*; 65c.

Leimbach, Gotthelf.—*Die Erforschung des Erdinnern mittels elektrischer Wellen und Schwingungen.* [The investigation of the earth's interior by means of electrical waves and oscillations.] (Address before Twelfth General German Mg. Congress in Breslau).—Kali, Erz & Kohle, Nov. 5, 1913; p 1107; 2200 w; 35c.

Leith, C. K.—*Structural Geology.*—New York, Henry Holt & Co.; 169 pp*; $1.50.

Lejeune, Arthur S.—*Mine Sampling and Ore Valution on the Rand.*—S. Af. Mg. Jnl., June 21, 1913; p 439; 1200 w*; 35c.

Letcher, Owen.—*Rand Conditions and Future Outlook.*—M. & S. P., June 28, 1913; p 977; 3500 w*; 20c.

Leroy, O. E.—*Silver, Lead and Zinc Deposits of Slocan, B. C.* (Extracts from Guide Book No. 9, Geol. Surv. of Canada).—Canadian Mg. Jnl., Sept. 15, 1913; p 580; 1300 w; 35c.

Lincoln, Francis Church.—*The Quantitative Mineralogical Classification of Gradational Rocks.*—Economic Geol., Sept., 1913; p 551; 14 pp; 65c.

Lindgren, W.—*Mineral Deposits.* 883 pp. $5 (book).

Lindstädt, Bergassessor. — *Die Blei und Zinkerzlagerstätten der Provinz Guipúzcoa in Spanien mit besonderer Berücksichtigung der Grube Catavera II bei Oñate.* [The lead and zinc-ore deposits of the province of Guipúzcoa in Spain with special reference to the Catavera II mine at Oñate].—Metall & Erz, Aug. 8, 1913; p 647; 9000 w*; 50c.

Linforth, Frank A.—*Applied Geology in the Butte Mines.*—Trans. Am. Inst. Mg. Engrs., Bull. 83, Nov., 1913; p 2611; 16 pp*; 35c.

Linton, Robert.—*Texas Iron Ore Deposits.*—E. & M. J., Dec. 20, 1913; p 1153; 2800 w*; 25c.

Locke, Ernest G.—*The Re-Awakening of an Old Placer Camp, American Cañon, Nev.*—M. & S. P., Sept. 6, 1913; p 373; 700 w; 20c.

Lommatzsch, Heinr.—*Beitrag zum Studium der Salzlagerstätten Hannovers;* [Contribution to the study of the salt deposits of Hannover, Germany].—Kali, June 1, 1913; p 266; 2600 w*; 35c.

Loughlin, G. F.—*Reconnaissance in the Southern Wasatch Mountains, Utah.*—Jnl. of Geol., July-Aug., 1913; p 436; 17 pp*; 75c.

Low, A. P.—*Extraits de Rapports sur le District d'Ungava Récemment Annexé à la Province de Québec et Constituant le Nouveau Quebec.* [Extracts of reports on the district of Ungava recently annexed to the province of Quebec and constituting New Quebec].—Bureau of Mines, Dep. of Colonization, Mines and Fisheries, Quebec, Canada; 231 pp*; 50c.

Machavoine, P.—*Note Relative à la Genèse des Minerais de Fer Sédimentaires.* [Note relative to the genesis of sedimentary iron ores].—L'Echo des Mines, Aug. 7, 1913; p 572; 1000 w; 35c.

Maclaren, Malcolm, and Thompson, J. Allan.—*Geology of the Kalgoorlie Goldfield.*—M. & S. P., July 12; p 45; 3500 w*; July 19; p 95; 4700 w*; Aug. 2, 1913; p 187; 3800 w; Aug. 9, 1913; p 228; 6000 w; Sept. 6, 1913; p 374; 5800 w; $1.

Maclaren, Malcolm, and Thompson, J. Al-

len.—*Geology of Kalgoorlie.*—W. Mg. B. & E. Jnl., Oct. 4, 1913; p 7; 3800 w; 35c.

Maddren, A. G.—*The Koyukuk-Chandalar Region, Alaska.*—Washington, D. C.; Bulletin 532, U. S. Geol. Survey; 119 pp*.

Malcolm, Wyatt.—*Oil and Gas Prospects of the Northwest Provinces of Canada.*—Memoir No. 29-E, Canada Dep. of Mines, Geol. Survey; 99 pp*.

Master, George Chester.—*Tin Mining in Mexico.*—Mg. Mag., Sept., 1913; p 199; 3200 w*; 35c.

Maufe, H. B.—*Southern Rhodesia Geological Report for* 1912.—S. Af. Mg. Jnl., June 7, 1913; p 379; 1500 w; 35c.

Maynard, T. Poole.—*White Rock Phosphates of Decatur County, Tennessee.*—Resources of Tenn., July, 1913; p 161; 9 pp*; 25c.

McDonald, P. B.—*Applied Geology, Michigan Iron Ranges.*—E. & M. J., Aug. 2, 1913; p 208; 2000 w*; 25c.

Mennell, F. P.—*Features of Some Rhodesian Orebodies.*—Mg. Mag., Sept., 1913; p 204; 3500 w*; 35c.

Michael, Dr.—*Die Fortschritte der Geologie Oberschlesien sin letzten zwanzig Jahren.* [The advances in the geology of Upper Silesia in the last twenty years].—Glückauf, Aug. 30, 1913; p 1362; 3200 w; 50c.

Miller, G. W.—*Genesis and Geology of Ore Deposits.*—L. A. Mg. Rev., July 19, 1913; p 5; 3000 w; Aug. 2, 1913; p 5; 2500 w; 40c.

Miller, B. L.—*Tertiary Coal Fields of the Rio Grande.*—Coal Age, Aug. 23, 1913; p 260; 3000 w*; 20c.

Milton, Maxwell C.—*The Oro Blanco District of Arizona.*—E. & M. J., Nov. 23, 1913; p 1005; 1100 w*; 25c.

Nichols, Ralph.—*The Lead-Silver Mines of Gilmore, Lemhi County, Idaho.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 27, 1913; p 1158; 1100 w*; 10c.

Nishizwa, Kimio.—*The Tayeh Iron Mine, China.*—Jnl. Royal Soc. Arts, Oct. 10, 1913; p 1018; 5 pp; 35c. Abstract in Mg. Jnl., London, Oct. 18, 1913; p 1004; 1500 w; 35c.

Ordonez, Ezequiel.—*The Magistral District, Jalisco, Mexico.*—E. & M. J., Sept. 13, 1913; p 491; 1600 w; 25c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Park, James.—*Elements of Field Geology and Geological Surveying.* (Abstracted from Aust. Mg. Stand.).—Mex. Mg. Jnl., July, 1913; p 333; 5000 w; 35c.

Parsons, Charles L.—*Our Radium Resources.* (Paper read before Am. Mg. Cong.).—S. L. Mg. Rev., Nov. 15, 1913; p 14; 5500 w*; 25c.

Patton, Horace B., Hoskin, Arthur J., and Butler, G. Montague.—*Geology and Ore Deposits of the Alma District, Park County, Colorado.*—Bull. 3, Colo. State Geol. Surv.; 284 pp*.

Perkins, George H.—*Report of the State Geologist on the Mineral Industries and Geology of Vermont,* 1911-1912.—State Geologist; 269 pp*.

Phalen, W. C.—*Phosphate Industry in Florida in* 1912. (Mineral Resources U. S.; abstract).—Mg. & Eng. World, Aug. 16, 1913; p 301; 2500 w; 10c.

Phalen, W. C.—*Celestite Deposits in California and Arizona.*—Washington, D. C.; Bulletin 540-T, U. S. Geol. Survey; 15 pp*.

Phalen, W. C.—*Strontium Minerals in the United States.* (U. S. Geol. Surv. monograph; abstract).—Mg. Sci., Sept., 1913; p 168; 1300 w; 35c.

Prest, Walter H.—*The Gold Fields of Nova Scotia.*—Industrial Advocate, Halifax, Oct., 1913; p 5; 3500 w*; 35c.

Prosser, Charles S.—*The Huron and Cleveland Shales of Northern Ohio.*—Jnl. Geol., May-June, 1913; p 323; pp 40*; 75c.

Ransome, F. L., and Collins, George E.—*Relationship of the Geological Survey to the Mining Geologist.*—E. & M. J., July 19, 1913; p 129; 1500 w; 25c.

Read, Thomas T.—*Copper Smelting Practice in the Southwest.*—M. & S. P., Oct. 4, 1913; p 521; 8000 w*; 20c.

Renier, Armand.—*Les Gisements Houillers de la Belgique.* [The coal deposits of Belgium].—Annales des Mines Belgique, 1913, Vol. 18, No. 3; p 755; 6500 w*; 65c.

Richards, W. B.—*The Origin and Deposition of Coal.* (Paper read before Panther Valley Mg. Inst.; abstract).—Mg. Engg., London, July, 1913; p 126; 3000 w*; 35c.

Richardson, G. B.—*The Paleozoic Section in Northern Utah.*—Am. Jnl. Sci., Oct., 1913; p 406; 10 pp; 65c.

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Riemann, Karl.—*Die deutschen Salzlagerstätten;* [The German salt deposits] (From R. W. Ztg.).—Montan-Ztg., June 1, 1913; p 206; 1000 w; 35c.

Rohrer, Leopold.—*Der geologische Bau der Insel Milos in Griechenland.* [The geologic structure of Milos island, Greece].—Montan-Ztg., Sept. 15, 1913; p 344; 2500 w; 35c.

Rogers, G. Sherburne.—*Overthrust Fault in Nearly Flat Strata.*—Jnl. Geol., Sept.-Oct., 1913; p 534; 3 pp*; 75c.

Rose, L.—*Zur Frage der Entstehung der Erzlagerstätten von Leadville (Kolorado);* [On the question of the origin of the ore deposits of Leadville, Colorado].—Glückauf, June 7, 1913; p 885; 1900 w*; 50c.

Rosenkränzer, F.—*Das Kalivorkommen im Oberelsass.* [The occurrence of potash salts in upper Alsace].—Berg & Hüttenmännische Rundschau, Aug. 20, 1913; p 279; 4000 w*; 35c.

Rozsa, Michael.—*Daten zur Kentniss des organischen Aufbaues der Stassfurter Salzablagerungen;* [Data on the knowledge of the organic origin of the Stassfurt salt deposits].—Kali, May 15, 1913; p 242; 3800 w*; 35c.

Rzehulka, A.—*Fingerzeige für die Begutachtung von Lagerstätten nutzbarer Mineralien.* [Hints on the examination of deposits of useful minerals].—Montanist. Rundschau, Aug. 16, 913; p 769; 2000 w; 35c.

Sacristán, Julio.—*Los Crideros de Wolfram de los Terminos de Oliva de Jerez y Zahinos de la Provincia de Badajoz.* [The tungsten deposits at the boundaries of Oliva de Jerez and Zahinos in the province of Badajoz, Spain]. (From Boletin del Instituto Geológico de España).—Revista Minera, Oct. 16, 1913; p 502; 1800 w; 35c.

Segaud and Humery.—*Die Uranlager in Portugal;* [Uranium deposits in Portugal].—Zts. Zentral-Verbd. Bergbau Betriebsl., July 1, 1913; p 385; 1500 w*; 35c.

Sellards, E. H.—*A Preliminary Paper on the Florida Phosphate.*—Third Annual Report, Fla., State Geol. Survey; 25 pp*; 50c.

Shedd, John C.—*Radioactivity of the Mineral Springs of Manitou, Colorado.*—Proc. Colo. Sci. Soc., Vol. X, pp 233-263*; 65c.

Smith, George Otis, and Others.—*The Classification of Public Lands.*—Bull. 537, U. S. Geol. Surv.; 197 pp*.

Smith, Sumner S.—*Lode Mining in the Willow Creek District, Alaska.*—M. & S. P., Aug. 30, 1913; p 335; 4600 w*; 20c.

Stebinger, Eugene.—*The Coal Fields of Montana.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2329; 33 pp*; 35c.

Stewart, R. B.—*West Shining Tree Area, Ontario.* (Abstract from annual report Bureau of Mines, Ontario).—Canadian Mg. Jnl., Nov. 15, 1913; p 696; 1400 w*; 35c.

Stopnewitsch, A. D.—*Geothermische Messungen.* [Geotnermic measurements].—Zts. Internat. Vereines Bohringenieure, July 15, 1913; p 157; 1750 w; Aug. 1, 1913; p 173; 2000 w; Sept. 1, 1913; p 199; 1500 w; Oct. 15; p 236; 1200 w; Nov. 1, 1913; p 247; 2000 w; Nov. 15, 1913; p 259; 1200 w; $2.10.

Stopnewitsch, A. D.—*Erdgas und Erdöl im allgemeinen und zu Stawropol im besonderen.* [Natural gas and petroleum in general and at Staropol in particular].—Chemiker & Tech. Ztg., Sept. 1, 1913; p 132; 800 w; Sept. 15; 1000 w; Oct. 1; p 147; 600 w; Oct. 15; p 156; 1000 w; Nov. 1, 1913; p 164; 1000 w; $1.80.

Storms, W. H.—*The Trinity-Balaklala-Vulcan Mines, Shasta County, California.*—M. & S. P., Sept. 13, 1913; p 408; 5000 w*; 20c.

Storms, William H.—*Geology of the Woody Copper District, California.*—E. & M. J., Oct. 4, 1913; p 635; 700 w; 25c.

Strong, W. W.—*Radio-Activity and Geology; the Evolution of the Elements.*—Radium, Nov., 1913; p 24; 2 pp; 35c.

Surr, Gordon.—*Lapis-Lazuli in Southern California.*—Mg. & Eng. World, Dec. 27, 1913; p 1153; 1650 w; 10c.

Taber, Stephen.—*Geology of the Gold Belt in the James River Basin, Virginia.*—Charlottesville, Va.; Bulletin No 7, Virginia Geol. Surv.; 271 pp*.

Tait, Peter G.—*The Mines of Tasmania.* [Second article descriptive of the Farrell, Zeehan and Williamsford and other mines].—Mg. & Engg. Rev., Melbourne, May 5, 1913; p 315; 10,000 w*; 35c.

Tarr, R. S., and Martin, Lawrence.—*Glacial Deposits of the Continental Type in Alaska.*—Jnl. Geol., May-June, 1913; p 280; pp 12*; 75c.

Thomas, Kirby.—*Seeing Further than the Point of a Pick.*—Ind. Advocate, Halifax, July, 1913; p 5; 6000 w; 35c.

Thompson, Phillips.—*The Chisana Gold District of Alaska.*—E. & M. J., Nov. 29, 1913; p 1040; 1000 w; 25c.

Umpleby, Joseph B.—*Mines of the Texas District, Lemhi County, Idaho.* (Abstract from Bull. 528, U. S. Geol. Surv.).—Mg. Sci., Nov., 1913; p 272; 2000 w*; 35c.

Waggaman, Wm. H.—*A Report on the Phosphate Fields of South Carolina.*—Bull. No. 18, Bureau of Soils, U. S. Dep. of Agriculture; 12 pp*.

Waitz, Paul, and Hijar y Haro, L.—*Algunos Datos Geologicos Sobre la Region Minera de Yesca* (Tepic). [Some geological data on the mining region of Yesca, Tepic, Mexico].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 71; 6000 w*; $2.

Walker, H.—*Note on the Geological Resurvey of the Raniganj Coal Field, Bengal, India.*—Trans. Mg. & Geol. Soc. of India, May, 1913; p 226; 54 pp; $1.25.

Wallace, R. C.—*Pseudobrecciation in Ordovician Limestones in Manitoba.*—Jnl. of Geol., July-Aug., 1913; p 402; 20 pp*; 75c.

Washington, Henry S.—*The Volcanoes and Rocks of Pantelleria.*—Jnl. Geol., Oct.-Nov., 1913; p 653; 16 pp*; 75c.

Washington, Henry S.—*Some Lavas of Monte Arci, Sardinia.*—Am. Jnl. Sci., Dec., 1913; p 577; 14 pp; 65c.

White, David.—*The Fossil Flora of West Virginia.*—W. Va. Geol. Surv.; 102 pp.

Whitman, Alfred R.—*The Vadose Synthesis of Pyrite.*—Econ. Geol., Aug., 1913; p 455; 14 pp*; 65c.

Williams, Henry S.—*Recurrent Tropidoleptus Zones of the Upper Devonian in New York.*—Professional Paper 79, U. S. Geol. Surv.; 103 pp*.

Williams, Noah T.—*Geology of Shansi and the Coal Industry of North China.* (Paper read before Manchester Geol. & Mg. Soc.; abstract).—Coal Tr. Bull., June 2, 1913; p 52; 2800 w; 25c. Sci. & Art of Mg., May 24, 1913; p 481; 1400 w; 35c.

Willert, Bergassessor.—*Geologische Skizze vom Saarrevier.* [Geological sketch of the Saar district, Germany].—Bergbau, July 17, 1913; p 465; 3700 w*; 35c.

Willert, Bergassessor. — *Deutschlands Bergbau und Bodenschätze.* [Germany's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Wilson, Morley E.—*Geology and Economic Resources of the Larder Lake District, Ont., and Adjoining Portions of Pontiac County, Quebec.*—Memoir 17-E, Canada Dept. of Mines, Geol. Survey; 62 pp*.

Wilson, Morley E.—*The Significance of Recent Developments in the Pre-Cambrian Stratigraphy of the Lake Superior-Lake Huron Region.*—Jnl. of Geol., July-Aug., 1913; p 385; 14 pp; 75c.

Wolf, J. H. G.—*The Mother Lode of California.*—M. & S. P., June 21, 1913; p 934; 4000 w*; June 28, 1913; p 983; 4000 w*; 40c.

Woodburn, J. Allan.—*Mining Copper Ores at Messina.*—Jnl. Chem., Met. & Mg. Soc. S. Af., Aug., 1913; p 53; 12 pp*; 65c.

Woolsey, W. J.—*Notes on Asbestos Veins and the Mineral Nephrite.*—Canadian Mg. Jnl., Aug. 15, 1913; p 519; 750 w*; 35c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report.*—Technical Paper 41, U. S. Bureau of Mines; 43 pp*.

Wright, Fred Eugene.—*Graphical Methods in Microscopical Petrography.*—Am. Jnl. Sci., Nov., 1913; p 509; 32 pp*; 65c.

Wunderlich, G.—*Erschütterungen und Detonationen im Kladnoer Kohlenrevier;* [Tremblings and detonations in the Kladnoer coal district, Bohemia].—Montanist. Rundschau, May 16, 1913; p 445; 3200 w; 35c.

Ziegler, Victor.—*Lithia Deposits of the Black Hills, South Dakota.*—E. & M. J., Dec. 6, 1913; p 1053; 3300 w*; 25c.

———. *A Geological Survey for China.*—M. & S. P., June 28, 1913; p 973; 900 w; 20c.

———. *Extracts from Reports on the*

District of Ungava, or the Territory of New Quebec.—Dep. of Colonization, Mines & Fisheries, Quebec, Canada; 160 pp*.

——— *Geologic Map of Southeast Nova Scotia.*—Canada Dep. of Mines, Mines Branch; Map No. 53 A, to accompany Memoir No. 20.

——— *Minerals of Bolivia.* (Abstract from Boletin de la Sociedad Nacional de minera).—E. & M. J., Oct. 4, 1913; p 636; 3000 w*; 25c.

———. *Report of Mining Operations in the Province of Quebec During the Year* 1912.—(See under Copper.)

——— *Region South of the Ducktown Copper Area.* (U. S. Geol. Surv. report).—Mg. & Eng. World, Oct. 4, 1913; p 607; 1300 w; 10c.

———. *The Best of Geologists Make Mistakes;* [Concerning a large body of siderite found in Mississippi].—Mg. & Eng. World, June 14, 1913; p 1139; 1000 w; 10c.

——— *The Cape Breton, Nova Scotia, Coal Fields.*—Coal Age, Nov. 29, 1913; p 805; 2000 w*; 20c.

——— *The Coal Fields of British India.* (Abstracted from Memoirs of the Geol. Surv. of India).—Coal Age, Oct. 18, 1913; p 570; 1800 w*; 20c.

——— *The Messina Copper Mines, South Africa.*—S. Af. Mg. Jnl., Nov. 8, 1913; p 223; 3500 w*; Nov. 15, 1913; p 260; 1500 w*; 70c.

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———. *Ueber die Achate;* [Concerning agates].—Montan-Ztg., June 1, 1913; p 209; 700 w; 35c.

——— *Variations in Values with Depth.* [Editorial].—Canadian Mg. Jnl., Aug. 15, 1913; p 502; 1000 w; 35c.

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Allen, Carl A.—*The Platoro District, Colorado.*—E. & M. J., Sept. 27, 1913; p 575; 2400 w*; 25c.

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Barnes, Corrin, and Byler, E. A.—*Relation of Faulting and Mineralization in Goldfield.*—M. & S. P., July 12, 1913; p 59; 1500 w*; 20c.

Barrois, Ch.—*Note sur Quelques Sondages Profonds Exécutée entre Douai et Arras par Compagnie de Châtillon-Commentry.* [Note on some deep bore holes by the Châtillon-Commentry Co., between Douai and Arras, France] (From Annales Soc. Géol. du Nord.).—Bull. Soc. Amicale Douai, Aug. 10, 1913; p 545; 2100 w; 35c.

Billingsley, Paul.—*The Southern Cross Mine, Mont.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2289; 11 pp*; 35c. Mg. & Eng. World, Nov. 1, 1913; p 781; 3200 w*; 10c.

Bowen, N. L.—*The Order of Crystallization in Igneous Rocks.*—Jnl. of Geol., July-Aug., 1913; p 399; 75c.

Bradley, F. W.—*Plans of the Alaska Juneau Gold Mining Co.*—M. & S. T., Dec. 6, 1913; p 880; 3500 w*; 20c.

Bretz, J. Harlen.—*Glaciation of the Puget Sound Region.*—Bull. No. 8, Washington Geol. Survey; 244 pp*.

Brinker, Arthur C.—*Geology at Santa Eulalia, Chihuahua, Mexico.* (Abstract from annual report).—M. & S. P., June 14, 1913; 2200 w*; 20c.

Brinsmade, R. B.—*The Copper Mines of the Sierra Magistral, Mexico.*—Mex. Mg. Jnl., Aug., 1913; p 394; 6500 w*; 35c.

Brown, E. Percy.—*Some Characteristics of the Gold-Bearing Veins of Nova Scotia.*—Can. Mg. Jnl., June 1, 1913; p 345; 3000 w*; 35c.

Brunton, Stopford.—*Some Notes on Titaniferous Magnetite.*—Economic Geol., Oct., 1913; p 670; 14 pp*; 65c.

Burchard, Ernest F.—*The Red Iron Ores of East Tennessee.*—Bull. 16, State of Tenn. Geol. Survey; 173 pp*.

Cairnes, D. D.—*The Chisana Placer-Gold Strike in Alaska.* (Report to Canadian Geol. Surv. report).—Mg. & Eng. World, Nov. 22, 1913; p 935; 2500 w; 10c.

Cayeux, M.—*De la Genèse des Minerais de Fer Sédamentaires.* [On the genesis of the sedimentary iron ores] (Abstract from l'Académie des Sciences).—L'Echo des Mines, May 22; p 588; 850 w; May 29; p 620; 600 w; 70c.

Chapman, Temple.—*Conditions in the Joplin District, Missouri.*—E. & M. J., Aug. 30, 1913; p 393; 1800 w; 25c.

Chamberlin, T. C.—*Diastrophism and the Formative Process.*—Jnl. Geol., Sept.-Oct., 1913; p 523; 11 pp; Nov.-Dec., 1913; p 577; 11 pp; $1.50.

Cirkel, Fritz.—*Rapport sur les Dépôts de Fer Chromé des Cantons de l'Est de la Province de Québec.* [Report on the deposits of chromite of the eastern cantons of the province of Quebec].—Canada Dep. of Mines, Mines Branch; 145 pp*.

Clapp, Charles H.—*The Coal Deposits at Nanaimo, Vancouver Island, B. C.*. (Extracts from Guide Book No. 9, Canadian Geol. Surv.).—Canadian Mg. Jnl. Sept. 15, 1913; p 586; 1500 w; 35c.

Colburn, E. A., Jr.—*Influence of Flat Dike on Ore Formation.*—E. & M. J., Sept. 27, 1913; p 599; 1500 w*; 25c.

Collins, George E.—*Application of Genetic Theories to the Search for Ore.* (Proceedings Colo. Sci. Soc.).—Canadian Mg. Jnl., Aug. 1, 1913; p. 480; 3500 w; 35c.

Cormick, C. P.—*Two Important Alaska Placer Strikes (Shushanna-Nelchina).*—Mg. & Eng. World, Dec. 6, 1913; p 1018; 1300 w*; 10c.

Dittmann, Adolf. — *Das Zwitterstockwerk zu Geyer im Erzgebirge.* [The crystallized tin-ore deposits at Geyer in the Erzgebirge, Germany.] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Sept. 8, 1913; p 735; 4500 w*; Sept. 22; p 778; 4000 w*; Oct. 8; p 807; 7500 w*; $1.50.

Eddingfield, F. T.—*Occurrence of Vein and Placer Gold, P. I.* (Abstract from Philippine Jnl. Sci.).—Mg. & Eng. World, Sept. 13, 1913; p 471; 1800 w*; 10c.

Eddingfield, F. T.—*Ore Deposits of the Philippine Islands.*—Phil. Jnl. Sci., April, 1913; p 81; 24 pp*: 65c.

Emmons, William H.—*Theory of Sulphide Ore Enrichment.* (Bull. 529, U. S. Geol. Surv., introductory remarks).—Mg. Sci., Aug., 1913; p 102; 1000 w; 35c.

Faribault, E. R.—*The Gold Deposits of Nova Scotia.* (Extracts from Guide Book No. 1, Canadian Geol. Surv.).—Canadian Mg. Jnl., Nov. 15, 1913; p 708; 2700 w; 35c.

Faribault, E. R.—*The Gold Deposits of*

Nova Scotia. (Extracts from Guide Book No. 1, Canadian Geol. Surv.).—Canadian M. & M., June, 1912; p 221; 3500 w; 20c. Mg. Jnl., Nov. 15, 1913; p 708; 2700 w; Dec. 15, 1913; p 780; 2500 w; 70c.

Finlay, George Irving.—*Introduction to the Study of Igneous Rocks.*—New York: McGraw-Hill Book Co.; 228 pp*; $2 (book).

Flegel, Kurt.—*Welche Erfolge sind bei Anwendung des elektrischen Widerstandsthermometers zu Temperaturmessungen in Tiefbohrlöchern für die Theorie und Praxis zu erwarten?* [What results for theory and practice are to be expected from the use of the electric resistance thermometer for the measurement of temperatures in deep bore holes?].—Glückauf, Nov. 8, 1913; p 1841; 3000 w*; 50c.

Flores, Teodoro.—*Algunos Datos Relativos a la Mina de "La Delfina," Distrito de Bravos, Estado de Guerrero, Mex.* [Data relating to La Delfina mine, Bravos district, State of Guerrero, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 9; 2600 w*; $2.

Frentzel, Alexander.—*Die Erdöl, Bitumen und Schwefellager von Tetjuschi.* [The petroleum, bitumen and sulphur deposits of Tetjuschi, Russia].—Petroleum, June 4, 1913; p 1121; 5200 w*; 60c.

Gilbert, Chester G., and Pogue, Joseph E.—*The Mount Lyell Copper District of Tasmania.*—Reprint from Proc. U. S. Natl. Museum, Govt. Ptg. Office, Washington, D. C., 26 pp*.

Goodchild, J. H.—*Laterization in Minas Geraes, Brazil.*—Transactions Inst. Mg. & Met.; Bull. No. 109; 16 pp*; 50c.

Görgey, R.—*Ueber die Salzgesteine der Kalilager von Wittelsheim im Oberelsass;* [On the salt rocks of the potash deposit of Wittelsheim in upper Alsace, Germany].—Kali, July 1, 1913; p 320; 5400 w*; 35c.

Gothan, W.—*Das oberschlesische Steinkohlenbecken im Vergleich mit andern Becken Mitteleuropas auf Grund der Steinkohlenfloren.* [The Upper Silesian coal basins in comparison with other basins of middle Europe based on the coal flora].—Glückauf, Aug. 30, 1913; p 1366; 1000 w; 50c.

Graton, L. C., and Murdoch, Joseph.—*Sulphide Ores of Copper and the Date of Their Chemical Transformation* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. Sci., July, 1913; p 46; 1600 w*; 35c.

Graton, L. C.—*Investigation of Copper Enrichment.*—E. & M. J., Nov. 8, 1913; p 885; 2000 w; 25c.

Gregory, Herbert E.—*The Gravels of Cuzco, Peru.*—Am. Jnl. of Sci., July, 1913; p 15; pp 14*; 65c.

Guess, H. A.—*Mining and Mining Methods in the Southeast Missouri Disseminated-Lead District.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2749; 20 pp*; 35c.

Hauptick, E. de.—*Occurrence of Platinum in the Urals.*—Mg. Jnl., London, Sept. 20, 1913; p 891; 1400 w; 35c.

Hatch, F. H., and Rastall, R. H.—*The Petrology of the Sedimentary Rocks.* (Vol. II of "Textbooks of Petrology," with an Appendix on the Systematic Examination of Loose Detrital Sediments. By T. Crock. 425 pp. 7s 6d (book).

Hershey, Oscar H.—*Origin of Lead, Zinc and Silver in the Coeur d'Alene, Idaho.*—M. & S. P., Sept. 27, 1913; p 489; 5500 w; 20c.

Hershey, Oscar H.—*Origin of Lead, Zinc and Silver in the Coeur d'Alene, Idaho.*—M. & S. P., Oct. 4, 1913; p 529; 6000 w; 20c.

Hore, Reginald, E.—*Magnetic Origin of Sudbury Nickel-Copper Deposits.* (Paper read before Canadian Mg. Inst.; abstract).—Canadian Mg. Jnl., July 15, 1913; p 437; 6500 w*; 35c.

Hore, Reginald E.—*On the Origin of the Porcupine Gold Deposits.* (Paper read before Canadian Mg. Inst.).—Canadian Mg. Jnl., Sept. 1, 1913; p 548; 4000 w; 35c.

Horwood, C. B.—*The Rand Banket and Its Gold Content.*—M. & S. P., Oct. 11, 1913; p 563; 6500 w*; Oct. 18, 1913; 9000 w*; Oct. 25, 1913; p 647; 6000 w*; Nov. 1, 1913; p 676; 3000 w; Nov. 8, 1913; 10,000 w*; Nov. 15, 1913; p 763; 8500 w*; Nov. 22, 1913; p 806; 7300 w*; Dec. 20, 1913; p 956; 10,500 w*; $1.80.

Howard, L. O.—*The Silver King Coalition Mines, Utah.*—S. L. Mg. Rev., Nov. 30.

Iddings, J. P.—*Igneous Rocks.* (Composition, Texture and Classification, Description and Occurrence). Vol. II; 685 pp. $6 (book).

Kemp, J. F.—*The Influence of Depth on the Character of Metalliferous Deposits.* (Paper read at Toronto Session Int. Geol. Congress).—Canadian Mg. Jnl., Sept. 1, 1913; p 543; 4000 w. Mg. & Eng. World, Oct. 4, 1913; p 591; 10c.

Kemp, J. F.—*Artificial Vein Formation in the Tomboy Mill, Telluride, Colo.*—Economic Geol., Sept., 1913; p 543; 8 pp*; 65c.

Larsh, Paul A.—*Lucky Bill Lead-Vanadium Mine.*—E. & M. J., Dec. 13, 1913; p 1103; 3700 w*; 25c.

Launay, M. de.—*The Formation of Metalliferous Deposits.* (Abstract of lecture delivered before Société de l'Industrie Minerale).—Mg. Jnl., London, June 28, 1913; p 635; 1600 w; 35c.

Letcher, Owen.—*Rand Conditions and Future Outlook.*—M. & S. P., June 28, 1913; p 977; 3500 w*; 20c.

Maclaren, Malcolm and Thompson, J. Allen.—Geology of Kalgoorlie.—W. Mg. B. & E. Jnl., Oct. 4, 1913: p 7; 3800 w; 35c.

Machavoine, P.—*Note Relative à la Genèse des Minerais de Fer Sédimentaires.* [Note relative to the genesis of sedimentary iron ores].—L'Echo des Mines, Aug. 7, 1913; p 572; 1000 w; 35c.

Maufe, H. B.—*Southern Rhodesia Geological Report for 1912.*—S. Af. Mg. Jnl., June 7, 1913; p 379; 1500 w; 35c.

Mennell, F. P.—*Features of Some Rhodesian Orebodies.*—Mg. Mag., Sept., 1913; p 204; 3500 w*; 35c.

Miller, G. W.—*Genesis and Geology of Ore Deposits.*—L. A. Mg. Rev., July 19, 1913; p 5; 3000 w; Aug. 2, 1913; p 5; 2500 w; 40c.

Paige, Sidney.—*The Bearing of Progressive Increase of Viscosity During Intrusion on the Form of Laccoliths.*—Jnl. Geol., Sept.-Oct., 1913; p 541; 9 pp*; 75c.

Palmer, Chase, and Bastin, Edson S.—*The Role of Certain Metallic Minerals in Precipitating Gold and Silver.* (Paper read before Am. Inst. Mg. Engrs.—Mg. Jnl., London, June 7, 1913; p 564; 2800 w; 35c.

Palmer, Leroy A.—*Tungsten in Boulder County, Colorado.*—E. & M. J., July 19, 1913; p 99; 4000 w*; 25c.

Paredes, Trinidad.—*Apuntes Sobre Algunos Minerales del Estado de Chihuahua.* [Memoranda on some of the mining districts of the State of Chihuahua, Mex.].—

Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 21; 5000 w; $2.

Phalen, W. C.—*Potash Salts; Summary for* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 36 pp.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.*—Mg. & Eng. World, June 28, 1913; p 1231; 2700 w*; 10c.

Richardson, Charles H.—*Economic Geology.*—New York, McGraw-Hill Book Co.; 320 pp*; $2.50 (book).

Sales, Reno H.—*Origin of the Butte Chalcocite.* (Excerpt from paper "Ore Deposits at Butte." Trans. Am. Inst. Mg. Engrs.).—E. & Mg. J., Sept. 6, 1913; p 439; 2000 w; Sept. 27, 1913; p 587; 3000 w; 50c. M. & S. P., Sept. 20, 1913; p 453; 8000 w; 20c.

Sallards, E. H.—*Origin of the Hard Rock Phosphate Deposits of Florida.*—Fifth Annual Report Fla. State Geol. Survey; 58 pp*.

Schmidt, Albert.—*Die nordbayrischen Eisen- und Manganvorkommen.* [The north Bavarian occurrence of iron and manganese].—Berg & Hüttenmännische Rundschau, Sept. 5, 1913; p 293; 5000 w; 35c.

Severy, C. L.—*Diamond Drilling at the Poderosa Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Shannon, Earl V.—*Secondary Enrichment in the Caledonia Mine, Coeur d'Alene District, Idaho.*—Economic Geol., Sept., 1913; p 565; 6 pp; 65c.

Sim, John, Jr.—*Petroleum: Its Genesis and Mining.* (Paper read before Scottish Fed. Inst. Mg. Students).—Iron & Coal Trade Rev., Dec. 5, 1913; p 878; 3750 w; 35c.

Smyth, C. H., Jr.—*The Chemical Composition of the Alkaline Rocks and Its Significance as to Their Origin.*—Am. Jnl. of Sci., July, 1913; p 33; pp 15; 65c.

Smith, Philip S.—*The Fineness of Gold in the Fairbanks District, Alaska.*—Econ. Geol., Aug., 1913; p 449; 6 pp; 65c.

Spearman, Charles.—*Ore Deposits of the Kirkland Lake District, Ontario.*—Canadian Mg. Jnl., Oct. 1, 1913; p 599; 2500 w*; 35c.

Spencer, Arthur C.—*Chalcocite Enrichment.*—Economic Geol., Oct., 1913; p 621; 32 pp; 65c.

Stutzer, O.—*Ueberblick über die nutzbaren Lagerstätten Katangas.* [A survey of the useful deposits of Katanga, Belgian Congo].—Metall & Erz, Aug. 30, 1913; p 679; 3300 w*; 50c.

Thiel, H., and Müller, H.—*The Gold-Copper Ore Deposits of the Guanaco, Chile.* (Translation from Die Zeitschrift für praktische Geologie, July, 1913).—Mg. Jnl., London, July 26, 1913; p 719; 1100 w; 35c.

Thomae, W. F. A.—*An Example of Secondary Enrichment.*—Trans. Inst. Mg. & Met., Bull. 109; 8 pp; 50c.

Thomas, Kirby.—*Zinc Ore Deposits in Boone and Marion Counties, Arkansas.*—M. & S. P., Nov. 29, 1913; p 854; 1500 w; 20c.

Thompson, Arthur P.—*The Relation of Pyrrhotite to Chalcopyrite and Other Sulphides.*—Sch. of Mines Quarterly, July, 1913; p 385; pp 16*; 65c.

Turrentine, J. W., Boss, W. H., Gardner, R. F., Merz, A. R., and Cullen, J. A.—*The Occurrence of Potassium Salts in the Salines of the United States.*—Bull. 94, Bureau of Soils, U. S. Dept. of Agriculture; 96 pp*.

Tyrrell, J. B.—*Silver Veins in South Lorrain, Ontario.*—Can. Mg. Jnl., June 1, 1913; p 329; 1000 w; 35c.

Tyrrell, J. B.—*The Occurrence of Gold in Ontario.* (Abstract from Bull. 110, Inst. of Mg. & Met.).—Mg. & Eng. World, Dec. 20, 1913; p 1103; 4000 w; 10c.

Udden, J. A.—*The Effect of Leaching on Drift Pebbles.*—Jnl. Geol., Sept.-Oct., 1913; p 564; 4 pp; 75c.

Vattier, Carlos.—*Iron Ore Deposits of Chile* (Translated from Bol. de la Soc. Nac. de Minera).—M. & S. P., Dec. 6, 1913; p 893; 4500 w*; 20c.

Wade, W. Rogers.—*Minerals of the Tres Hermanas District, New Mexico.*—E. & M. J., Sept. 27, 1913; p 589; 1100 w; 25c.

Walker, T. L.—*Rapport sur les Minerais de Tungstene du Canada.* [Report on the tungsten ores of Canada].—Canada Dep. of Mines, Mines Branch; 58 pp*.

Watson, Thomas Leonard.—*The Mineral Resources of Virginia.* (Second article).—M. & S. P., June 21, 1913; p 947; 3200 w*; 20c.

Weston, E. M.—*Factors Affecting Choice of Mining Methods.*—E. & M. J., Sept. 20, 1913; p 533; 3000 w; 25c.

Whitman, Alfred R.—*Synthesis of Pyrite.* (Abstract from Calif. Jnl. of Tech.).—M. & S. P., Dec. 13, 1913; p 928; 1300 w; 20c.

Winchell, Horace V.—*Persistence of Ore Deposits in Depth.*—M. & S. P., Aug. 30, 1913; p 332; 2700 w; 20c.

Winchester, Dean E.—*Cross-Bedding in the White River Formation of Northwestern South Dakota.*—Jnl. Geol., Sept.-Oct., 1913; p 550; 7 pp*; 75c.

Wolf, J. H. G.—*The Mother Lode of California.*—M. & S. P., June 21, 1913; p 934; 4000 w*; June 28, 1913; p 983; 4000 w*; 40c.

Zalinski, Edward R.—*Occurrence of Oxidized Zinc Ores at Tintic, Utah.*—E. & M. J., June 21, 1913; p 1227; 2500 w*; 25c.

———. *Development of the Rochester Mining District, Nevada.*—Mg. & Eng. World, June 28, 1913; p 1239; 800 w; 10c. M. & S. P., June 28, 1913; p 994; 1000 w; 20c.

——— *Die Kalivorkommen in Südwestdeutschland.* [The occurrence of potash in south-west Germany].—Zts. Internat. Vereines Bohringenieure, Oct. 1, 1913; p 225; 700 w; 35c.

——— *Die Möglichkeit der Auffindung von Kalilagern in Siebenbürgen.* [The possibility of discovering potash deposits in Siebenbürgen].—Zts. Vereines Bohringenieure, Sept. 15, 1913; p 214; 500 w; 35c.

———. *Les Gisements Aurifères du Département de l'Aude.* [The auriferous deposits of the department of Aude, France].—Echo des Mines, Oct. 6, 1913; p 1020; 1500 w; 35c.

———. *Map of West Virginia, Showing Coal, Oil, Gas, Iron Ore, and Limestone Areas.*—W. Va. Geol. Survey.

———. *Mineral Deposits of Broken Hill, Northern Rhodesia.*—S. Af. Mg. Jnl., July 12, 1913; 3000 w; 35c.

——— *Primäre und Sekundäre Druckwirkungen im Stein- und Braunkohlenbergbau.* [Primary and secondary pressure effects in coal and lignite mining].—Zts. Zentral Verbd. Bergbau Betriebsl., Sept. 1, 1913; p 510; 4000 w*; Sept. 15, 1913; p 559; 3300 w*; 70c.

——— *Primary and Secondary Ores Considered with Especial Reference to the Gel and the Rich Heavy Metal Ores.* (Paper

read before Int. Geol. Cong.).—M. & S. P., Sept. 13, 1913; p 418; 8500 w; 20c.

——— *Secondary Enrichment* [Editorial].—Mg. Mag., London, Oct., 1913; p 250; 1600 w; 35c.

——— *Variations in Values with Depth.* [Editorial].—Canadian Mg. Jnl., Aug. 15, 1913; p 502; 1000 w; 35c.

MINERALOGY

Cole, Grenville A. J.—*Outlines of Mineralogy for Geological Students.* 309 pp. $1.60 (book).

Dittman, Adolf.—*Das Zwitterstockwerk zu Geyer im Erzebirge.* [The crystallized tin-ore deposits at Geyer in the Erzgebirge, Germany.] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Sept. 8, 1913; p 735; 4500 w*; Sept. 22; p 778; 4000 w*; Oct. 8; p 807; 7500 w*; $1.50.

Fenner, Clarence N.—*The Stability Relations of Silica Minerals.*—Am. Jnl. Sci., Oct., 1913; p 331; 55 pp*; 65c.

Finlay, George Irving.—*Introduction to the Study of Igneous Rocks.*—New York; McGraw-Hill Book Co.; 228 pp*; $2. (book).

Foote, H. W., and Bradley, W. M.—*The Constant Composition of Albite.*—Am. Jnl. of Sci., July, 1913; p 47; pp 4; 65c.

Foote, H. W. and Bradley, W. M—*On Solid Solution in Minerals; the Composition of Amorphous Minerals as Illustrated by Chrysocolla.*—Am. Jnl. Sci., Aug., 1913; p 180; 5 pp; 65c.

Ford, W. E. and Bradley, W. M.—*Pyroxmangite, a New Member of the Pyroxene Group and Its Alteration Product, Skemmatite.*—Am. Jnl. Sci., Aug., 1913; p 169; 6 pp; 65c.

George, R. D.—*Common Minerals and Rocks, Their Occurrence and Uses.*—Bull. 6 Colo. Geol. Surv.; 406 pp*.

Hess, Frank L., and Hunt, W. F.— *Triplite from Eastern Nevada.*—Am. Jnl. of Sci., July, 1913; p 51; 4 pp*; 65c.

Iddings, Joseph P.—*Igneous Rocks, Vol. II.*—New York: 694 pp*; $6 (book).

Kemp, J. F.—*Influence of Depth of Metalliferous Deposits.* (Paper read before Int. Geol. Congress, Toronto; abstract).—Mg. & Eng. World, Oct. 4, 1913; p 591; 3500 w; 10c.

Lincoln, Francis Church.—*The Quantitative Mineralogical Classification of Gradational Rocks.*—Economic Geol., Sept., 1913; p 551; 14 pp; 65c.

McCaughey, Wm. J.—*Mineralogical Soil Analysis.*—Jnl. Ind. & Eng. Chem., July, 1913; p 562; 1800 w; 65c.

Mixter, W. G.—*The Heat of Formation of the Oxides and Sulphides of Iron, Zinc and Cadmium.*—Am. Jnl. of Sci., July, 1913; p 55; 15 pp*; 65c.

Moses, A. J.—*Utilizing the Polarizing Microscope in the Determination of Minerals of Non-Metallic Luster.*—Sch. of Mines Quarterly, July, 1913; p 305; pp 30*; 65c.

Nicholson, H. H.—*Gold Deposits and Their Associated Minerals.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. Sci., Aug., 1913; p 96; 3 pp; 35c.

Palmer, Leroy A.—*Tungsten in Boulder County, Colorado.*—E. & M. J., July 19, 1913; p 99; 4000 w*; 25c.

Ries, Heinrich.—*Building Stones and Clay-Products, a Handbook for Architects.*—New York, 1912; 415 pp*; $3; (book).

Rinne, F.—*Mineralogische Characteristik des krystallinen Zustandes.* [The mineralogical characteristic of the crystalline condition.] (Abstract of paper read before meeting of German Naturalists and physicians).—Chemiker-Ztg., Sept. 25, 1913; p 1153; 1000 w; 35c.

Umpleby, J. B.—*Cuterite: A New Contact Metamorphic Mineral.*—Am. Jnl. Sci., Oct., 1913; p 385; 10 pp; 65c.

Wittich, Ernesto, and Pastor y Giraud.—*Unos Cristales Gigantes de Yeso Procedentes de la Mina Naica, Chihuahua.* [Some gigantic crystals of gypsum from the Naica mine, Chihuahua, Mex.].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 61; 1800 w*; $2.

Wittich, Ernesto, and Pastor y Giraud, Antonio.—*Reseña Acerca de los Topacios de Mexico.* [Description of the topazes of Mexico].—Boletin Soc. Geol. Mex., Vol. 8, Part 1; p 53; 1500 w; $2.

PART III.

TECHNOLOGY.

MINES AND MINING (a*).

CHAPTER XIII.

PROSPECTS AND PROSPECTING

Barneveld, Charles E. van.—*Iron Mining in Minnesota.*—Bull. 1, Minn. School of Mines Exp. station; 215 pp*.

Barrois, Ch.—*Note sur Quelques Sondages Profonds Exécutée entre Douai et Arras par Compagnie de Châtillon-Commentry.* [Note on some deep bore holes by the Châtillon-Commentry Co., between Douai and Arras, France] (From Annales Soc. Géol. du Nord).—Bull. Soc. Amicale Douai, Aug. 10, 1913; p 545; 2100 w; 35c.

Bowen, H. P.—*Itemized Equipment for Churn Drill.*—E. & M. J., Sept. 6, 1913; p 444; 1800 w*; 25c.

Christy, S. B.—*Diamond-Drill Prospecting at Porcupine, Ont.* (Bull. 65, Mg. & Met. Soc. of Am., Oct. 31, 1913; p 283; 3 pp; 35c.

Duenas and Canseco.—*La Reforma del Código de Mineria;* [Contribution of the Society of Engineers toward the revision of the Mining Code of Peru].—Informaciones y Memorias, April, 1913; p 163; 22 pp; 50c.

Free, E. E.—*Progress in Potash Prospecting in Railroad Valley, Nevada.* (Abstract from Monograph 11, U. S. Geol. Surv.).—M. & S. P., Aug. 2, 1913; p 176; 2800 w*; 20c.

Guess, H. A.—*Mining and Mining Methods in the Southeast Missouri Disseminated-Lead District.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2749; 20 pp*; 35c.

Haley, Charles S., and Rodegerdts, C. A.—*Prospecting Conditions in Peru.*—M. & S. P., Dec. 13, 1913; p 922; 6500 w*; Dec. 20, 1913; 6000 w*; 40c.

Leimbach, Gotthelf.—*Die Erforschung des Erdinnern mittels elektrischer Wellen und Schwingungen.* [The investigation of the earth's interior by means of electrical waves and oscillations] (Address before Twelfth General German Mg. Congress in Breslau).—Kali, Erz & Kohle, Nov. 5, 1913; p 1107; 2200 w; 35c.

Leimbach, Gotthelf.—*Ueber die Anwendung elektrischer Schwingungen (drahtloser Telegraphie) zur Erforschung des Erdinnern, besonders im Kalibergbau.* [On the use of electric waves (wireless telegraphy) for the investigation of the earth's interior, especially in potash mining].—Kali, Sept. 1, 1913; p 433; 5500 w*; 35c.

Moline, Arthur H. P.—*The Pickstock Hand-Power Prospecting Drill.*—Mg. & Engg. Rev., London, June 5, 1913; p 364; 1500 w*; 35c.

Nicholson, H. H.—*Hertzian Waves in Locating Ores.*—Mg. Sci., July, 1913; p 26; 500 w; 35c.

Przyborski, M.—*Ungarns Salzproduktion im Jahre* 1911. [Hungary's salt production in 1911].—Montanist. Rundschau, Aug. 1, 1913; p 727; 800 w*; 35c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 9, 1913; p 241; 2250 w*; 10c.

Uebbing, Paul.—*Versuche zur Verarbeitung zinkhaltiger Kieselbrände.* [Experiments on the utilization of zinc-carrying pyrites cinder].—Metall & Erz, July 22, 1913; p 607; 3000 w*; 50c.

W. W. A.—*Prospecting in Forest Reserves.*—Mg. & Eng. World, July 5, 1913; p 23; 2000 w; 10c.

——— *Address of President Brunton of the American Mining Congress.*—Mg. & Eng. World, Nov. 15, 1913; p 887; 3500 w; 10c.

——— *Auf der Suche nach neuen Erdölfeldern in Nordamerika.* [On the search for new oils fields in North America] (Translated from Petroleum Rev.).—Zts. Internat. Vereines Bohringenieure, Sept. 15, 1913; p 215; 600 w; 35c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911]. (See Gold).

——— *Prospecting by the Government.* [Editorial].—M. & S. P., Aug. 30, 1913; p 331; 800 w; 20c.

SURVEYING AND DRAFTING

Crocker, W. J.—*Mine Surveying Wrinkles.*—Mex. Mg. Jnl., June, 1913; p 301; 1000 w; 25c.

Crocker, Wm. J.—*Some Symbols Used in Mine Mapping.*—Mg. & Eng. World, Nov. 29. 1913; p 973; 700 w*; 10c.

Durham, E. B.—*Mine Surveying.* 390 pp. $3.50 (book).

Durham, Edward B.—*Mine Surveying.*—

*(a) Includes Prospects and Prospecting, Surveying and Drafting, Drilling and Boring, Explosives and Blasting, Shafts and Shaft Sinking, Tunnels and Tunneling, Mine Waters and Pumps, Mine Gas, Fire Damp, Ventilation, Mine Temperatures, Supports, Lighting, Telephones and Signalling, Hoists and Hoisting, Hydraulic Mining, Power Shovels and Mining Miscellany.

New York, McGraw-Hill Book Co.; 391 pp*; $3.50 (book).

Glass, Frank A.—*Steel-Tape Repairing in the Field.*—E. & M. J., Nov. 29, 1913; p 1023; 400 w; 25c.

Harris, A. Carr.—*Laying Out Cananea Underground Curves.*—E. & M. J., Nov. 29, 1913; p 1027; 1200 w*; 25c.

Murray, V. H. R.—*An Underground Survey.* (Western Australia).—Jnl. Cham. of Mines, W. Aus., Sept. 30, 1913; p 211; 5 pp*; 50c.

Park, James.—*Elements of Field Geology and Geological Surveying.* (Abstracted from Aust. Mg. Stand.).—Mex. Mg. Jnl., July, 1913; p 333; 5000 w; 35c.

Richardson, Alex.—*The Mine Surveyor.* (Presidential address, Chem., Met. & Mg. Soc. of S. Af.).—Canadian Mg. Jnl., Nov. 15, 1913; p 713; 2000 w; 35c.

Wilski, P.—*Ueber einige neure Schachtlotverfahren.* [On some recent methods of shaft plumbing] (Address before Eighty-fifth Meeting of German Naturalists and Physicians in Vienna). — Montanistische Rundschau, Oct. 16, 1913; p 988; 1800 w*; 35c.

Woodruff, E. G.—*Topographic Maps for the Mining Engineer.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 22, 1913; p 929; 3500 w*; 10c.

——— *Complete Mine Maps.* (Standard adopted by Philadelphia & Reading Coal Co.).—Coll'y Eng., Sept., 1913; p 91; 1500 w; 35c.

DRILLING AND BORING

Addy, George E.—*Economy of Hammer Drills.*—Mex. Mg. Jnl., Aug., 1913; p 376; 700 w*; 35c.

Aikens, Warren.—*Electric Power for Missouri-Kansas Zinc Mines.*—Mg. & Eng. World, Aug. 16, 1913; p 295; 2000 w*; 10c.

Arnold, Ralph, and Garfias, V. R.—*Der Wasserabschluss in den Erdülbrunnen Kaliforniens durch Zementierung.* [Sealing off water in California oil wells by cementing] (Translation from Petroleum Rev.).—Zts. Internat. Vereines Bohringenieure, July 1, 1913; p 147; 2000 w; 35c.

Balliet, Letson.—*The Intelligent Direction of Mechanical Energy in Mining.*—Mg. & Eng. World, Aug. 16, 1913; p 294; 1000 w; 10c.

Balliet, Letson.—*Efficiency of Machine Drilling.*—S. L. Mg. Rev., Sept. 30, 1913; p 16; 1700 w; 25c.

Balliet, Letson.—*Actual Efficiencies in Rock Drilling.*—Comp. Air Mag., Nov., 1913; p 7028; 1600 w; 25c.

Balliet, Letson.—*Some Mistakes Made in Mine Management.*—Mg. & Eng. World, Dec. 6, 1913; p 1023; 2500 w; 10c.

Bedford, Robert H., and Hague, William.—*Rock-Drill Testing at the North Star, Cal.*—M. & S. P., Aug. 2, 1913; p 179; 2000 w*; 20c.

Boericke, W. F.—*Churn Drilling in Southwestern Wisconsin.*—E. & M. J., Aug. 30, 1913; 3200 w*; 25c.

Bowen, H. P.—*Handling Sludge from Diamond-Drill Holes.*—E. & M. J., June 28, 1913; p 1289; 350 w; 25c.

Bowen, H. P.—*Itemized Equipment for Churn Drill.*—E. & M. J., Sept. 6, 1913; p 444; 1800 w*; 25c.

Brown, W. R.—*Blast-Hole Drilling in Open-Pit Copper Mining.* (Abstract from Colo. Sch. of Mines Mag.).—Mg. & Eng. World, Oct. 25, 1913; p 735; 2100 w; 10c.

Brown, W. B.—*Blast-Hole Drilling at the Nevada Con. Property in Nevada.* (Excerpts from an article in Keystone Drill Magazine).—E. & M. J., Nov. 22, 1913; p 982; 2750 w; 25c.

Carter, Thomas.—*Ueber die Fabrikation des Hexanitrodiphenylamins;* [On the manufacture of hexanitrodiphenylamine].—Zts. Schiess & Sprengstoffw., June 1, 1913; p 205; 1300 w; 35c.

Christy, S. B.—*Diamond-Drill Prospecting at Porcupine, Ont.* (Bull. 65, Mg. & Met. Soc. of Am., Oct. 31, 1913; p 283; 3 pp; 35c.

Cole, A. A.—*Mining Methods at Porcupine, Ont.* (Abstract of report to T. & N. O. Ry. Commission).—Can. Mg. Jnl., June 15, 1913; p 375; 1700 w; 35c.

Crocker, William J.—*Standardizing Mine Supplies and Work.*—Mg. & Eng. World, Nov. 2, 1913; p 927; 1900 w; 10c.

DeCamp, W. V.—*Sinking with Delay Action Fuses.*—E. & M. J., July 12, 1913; p 65, 1000 w*; 25c.

Donovan, Percy W.—*Churn-Drill Angle Holes on the Cuyuna Range, Minnesota.*—E. & M. J., Dec. 13, 1913; p 1117; 1200 w*; 25c.

Fallon, C. M.—*"Missed Holes" and the Remedy.*—Mg. & Eng. World, Aug. 30, 1913; p 384; 300 w; 10c.

Fisher, Howell T.—*Progress in the Mount Royal Railroad Tunnel, Canada.*—E. & M. J., July 26, 1913; p 147; 1500 w*; 25c.

Formis, Andre.—*Efficiency in Mining Drill.* (Paper read before Copper Country Club; abstract).—Comp. Air Mag., Aug., 1913; p 6915; 3 pp*; 20c.

Gerke, Arthur.—*Ueber Bohrer für den Bergbau.* [On bits for rock-drilling machines].—Zts. Oberschles. Berg & Hüttenm. Vereines, Oct., 1913; p 396; 12,000 w*; 50c.

Gillie, John.—*Use of Electricity in Mining in the Butte District.* (Trans. Am. Inst. Engrs.).—Mg. & Eng. World, Nov. 22, 1913; p 926; 1300 w; 10c.

Guess, H. A.—*Mining and Mining Methods in the Southeast Missouri Disseminated-Lead District.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2749; 20 pp*; 35c.

Hall, Albert E.—*Stoping Drills at Sudbury, Ontario.*—Sch. of Mines Quarterly, July, 1913; p 383; pp 2; 65c.

Hansen, C. M.—*Drilling in Mid-Air.* [At the Bullwhacker mine, Butte].—Comp. Air Mag., Aug., 1913; p 6919; 500 w*; 20c.

Heap, R. R.—*A Geological Drainage Problem in Southwestern Missouri.*—E. & M. J., Dec. 27, 1913; p 1205; 6000 w*; 25c.

Herbing, Dr.—*Kernbohrung in sonst nicht kernfähigem Gebirge;* [Core drilling in formations not ordinarily capable of yielding a core].—Zts. Internat. Vereines Bohringenieure, June 1, 1913; p 123; 1800 w*; 35c.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian Mg. Jnl., Nov. 1, 1913; p 675; 2700 w*; 35c.

Hyde, A. L.—*Siedepunkte von Nitroglycerinlösungen;* [Boiling points of nitroglycerin solutions]. (Translated from communication to Eighth Internat. Congress Applied Chem.).—Zts. Schiess & Sprengstoffw., June 1, 1913; p 206; 1800 w*; 35c.

Kellogg, L. O.—*Notes on the Cuyuna*

Iron Range, Minnesota.—E. & M. J., Dec. 27, 1913; p 1200; 4000 w*; 25c.

Maenicke Bergassessor.—*Die Verwendung von auswechselbaren Bohrschneiden im Kalibergbau.* [The use of changeable cutting edges for boring bits in potash mining].—Kali, Dec. 15, 1913; p 603; 2200 w*; 35c.

Marshall, Emory M.—*Sharpening Machine-Steel by Hand.*—E. & M. J., Dec. 6, 1913; p 1069; 400 w*; 25c.

McDonald, P. B.—*Applied Geology, Michigan Iron Ranges.*—E. & M. J., Aug. 2, 1913; p 208; 2000 w*; 25c.

McKee, W. M.—*Exploring Coal Measures with the Diamond Core Drill.*—Coal Tr. Bull., Nov. 1, 1913; p 46; 1500 w*; 25c.

Moline, Arthur H. P.—*The Pickstock Hand-Power Prospecting Drill.*—Mg. & Engg. Rev., London, June 5, 1913; p 364; 1500 w*; 35c.

Munroe, H. S.—*Shaft-Sinking Methods at Butte.*—E. & M. J., Aug. 30, 1913; p 389; 1500 w; 25c.

Neitzel, Gewerb assessor.—*Die Initialzündungen der Sprengstofftechnik;* [The technique of the initial ignition of explosives] (Continuation).—Zts. Schiess & Sprengstoffw., June 1, 1913; p 209; 5000 w; June 15 (last part); p 251; 2500 w; 70c.

Perkins, Frank C.—*A Combined Coal Cutter, Puncher and Drill.*—C. & C. Opr., July 31, 1913; p 295; 2500 w*; 25c.

Perkins, Frank C.—*Modern Mining Pneumatic Drills.*—C. & C. Opr., Sept. 4, 1913; p 405; 1000 w*; 25c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.*—Mg. & Eng. World, July 5, 1913; p 16; 2500 w*; July 12, 1913; p 69; 2800; 20c*.

Recktenwald, J.—*Die Verwendung von Druckwasser beim Bergbau.* [The use of water under pressure in mining].—Berg & Hüttenm. Rundschau, May 5, 1913; p 189; 1200 w; 35c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 9, 1913; p 241; 2250 w*; Aug. 23, 1913; p 327; 4000 w*; Aug. 30, 1913; p 367; 5000 w*; Sept. 27, 1913; p 556; 3000 w*; 40c.

Rice, Claude T.—*Recent Advances in Butte Mining Practice.*—Mg. & Eng. World, July 26, 1913; p 143; 5300 w; 10c.

Richter, G.—*Die Verwendung von Freihanddrehbohrmaschinen mit Pressluftantrieb bei der Kohlengewinnung in Oberschlesien.* [The use of free-hand rotary drills operated by compressed air in coal mining in Upper Silesia].—Glückauf, Aug. 30, 1913; p 1396; 2500 w*; 50c.

Saunders, W. L.—*Rock-Drilling Economics.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2199; 23 pp*; 35c.

Severy, C. L.—*Diamond Drilling at the Poderosa Mine, South America.*—M. & S. P., Aug. 30, 1913; p 338; 2000 w*; 20c.

Smith, R. E., and Hann, H. G.—*Drilling Alluvium in Siberia.*—Mg. Mag., July, 1913; p 43; 2000 w*; 35c.

Storms, W. H.—*The Trinity-Balaklala-Vulcan Mines, Shasta County, California.*—M. & S. P., Sept. 13, 1913; p 408; 5000 *; 20c.

Titus, R.—*Stossende und drehende Bewegung des Bohrmeissels;* [Percussive and rotary motion of drill bits].—Zts. Internat. Vereines Bohringeniuere, June 1, 1913; p 125; 2000 w; 35c.

Titus, R.—*Drehbohren mit Dickespülung.* [Rotary drilling with plugging].—Zts. Internat. Vereines Bohringenieure, July 1, 1913; p 146; 1900 w; 35c.

Titus, R.—*Reinigung der Bohrlochsohle mittels Pressluft.* [Cleaning bore-hole bottoms by means of compressed air].—Zts. Internat. Vereines Bohringenieure, July 1, 1913: p 150: 600 w: 35c.

Weber, H. C. P.—*On a Modified Form of Stability Test for Smokeless Powder and Similar Materials.*—Bull. Vol. 9, No. 1, Bureau of Standards, U. S. Dep. of Commerce; p 119; 11 pp*.

Wilcox, Ralph.—*Substitution of Air for Water in Diamond Drilling.* (Abstract of paper read at Butte meeting Am. Inst. Mg. Engrs.).—E. & M. J., Nov. 22, 1913; p 973; 650 w; 25c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report*—Technical Paper 41, U. S. Bureau of Mines; 43 pp*.

———. *A Drill Tester for the Shop.*—(U. S. patent description).—E. & M. J., Nov. 1, 1913; p 829; 2400 w*; 25c.

———. *Blast-Hole Drilling in Open-Pit Copper Mining at Copper Flat, Nev.*—M. & S. P., Oct. 25, 1913; p 643; 2600 w*; 20c.

———. *Drilling Contest in the Joplin District, Missouri.*—Mg. & Eng. World, Nov. 1, 1913; p 794; 300 w; 10c.

———. *Drilling Mesabi Gopher Holes.*—E. & M. J., Dec. 20, 1913; p 1169; 700 w*; 25c.

———. *Efficiency in Underground Drilling.* (Abstract of address before Copper Country Club, Michigan).—M. & S. P., June 28, 1913; p 982; 650 w; 20c.

———. *Gjukes hydropneumatische Gesteinsstossbohrmaschine.* [Gjukes hydropneumatic hammer rock drill] (Translated from Jernkontorets Annaler).—Bergbau, July 31, 1913; p 497; 1000 w*; 35c.

———. *Hand Hammer Drills in Shaft Sinking.*—Coal Age, Aug. 16, 1913; p 231; 1500 w*; 20c.

———. *Nickel Developments at Sudbury, Ontario.*—E. & M. J., Aug. 2, 1913; p 205; 1100 w; 25c.

———. *Rock-Drill Lubrication.*—E. & M. J., Sept. 13, 1913; p 489; 2000 w; 25c.

———. *Rock-Drilling Contests.*—M. & S. P., July 19, 1913; p 108; 750 w; 20c.

———. *The Britton Automatic Water Spray for Hammer Drills.*—Ir. & C. Tr. Rev., May 30, 1913; p 882; 1200 w*; 35c.

———. *The One-Man Drill.* (Abstract of pamphlet prepared on Lake copper strike by Copper Country Commercial Club).—M. & S. P., Nov. 1, 1913; p 692; 1500 w; 20c.

———. *Wird die Leistungsfähigkeit der Gesteinsbohrmaschinen auch in Zukunft gesteigert werden können?* [Will it be possible in the future to raise the efficiency of rock-boring machines?].—Bergbau, Oct. 9, 1913; p 673; 3500 w; 35c.

EXPLOSIVES AND BLASTING

Ambrose, John E.—*Shotfiring and Watering Systems in Utah Mines.*—Coal Age, Oct. 11, 1913; p 536; 2400 w*; 20c.

Balliet, Letson.—*The Intelligent Direction of Mechanical Energy in Mining.*—Mg. & Eng. World, Aug. 16, 1913; p 294; 1000 w; 10c.

Becker, Richard.—*Die Methoden zur Untersuchung von Sprengstoffen.* [The methods for the investigation of explosives].—Tichnische Blätter, Aug. 31, 1913; p 278; 1000 w*; 35c.

Blackett, W. C.—*Combustion of Oxygen and Coal Dust.* (Paper read before North of England Inst. Mg. & Mech. Engrs.; abstract).—Austr. C. & I. Tr. Rev., June 5, 1913; p 317; 6500 w; 35c.

Brown, W. R.—*Blast-Hole Drilling in Open-Pit Copper Mining.* (Abstract from Colo. Sch. of Mines Mag.).—Mg. & Eng. World, Oct. 25, 1913; p 735; 2100 w; 10c.

Brunswig, H.—*Explosives: A Synoptic and Critical Treatment of the Literature of the Subject as Gathered from Various Sources.* (Translated by Charles E. Monroe and Alton L. Kibler). 350 pp. (book).

Brunton, David W., and Davis, John A.—*Safety in Tunneling.* (Miners' Circular No. 13, U. S. Bur. Mines).—Coal Tr. Bull., Dec. 1, 1913; p 30; 7000 w; 25c.

Buisson, Albert, and Delpy, Max.—*Ueber die Fabrikation der rauchlosen Pulver in den verschiedenen Staaten.* [On the manufacture of smokeless powder in different countries] (From "Le Problem des Poudres").—Zts. Schiess & Sprengstoffw., Aug. 1, 1913; p 285; 3500 w; Aug. 15; p 307; 2000 w; Sept. 1, 1913; p 330; 2200 w; Sept. 15; p 352; 2100 w; Oct. 1, 1913; p 368; 2000 w; Oct. 15; p 393; 1700 w; $2.10.

Comey, Arthur M., and Holmes, Fletcher B.—*Der Gebrauch des ballistischen Pendels zur Bestimmung der Stärke von Explosivstoffen.* [The use of the ballistic pendulum for determination of the strength of explosives] (Translation of paper read before the Eighth Internat. Cong. Applied Chem.).—Zts. Schiess & Sprengstoffw., July 15, 1913; p 265; 1600 w*; 35c.

Courtois-Suffit, Dr.—*Ueber hygienische Verbesserungen in der Industrie der Pulver und Sprengstoffe.* [On hygienic improvements in the powder and explosives industry].—Zts. Sprengstoffw., Aug. 1, 1913; p 291; 3000 w*; Aug. 15; p 309; 3400 w*; 70c.

Cullen, Wm. — *Electric Blasting.*—Jnl. Chem. Met. & Mg. Soc. of S. Af., Oct., 1913; p 174; 17 pp*; $1.

Dreger, W.—*Nitrierung von Cellulose mit Säurewiedergewinnung.* [Nitration of cellulose with acid recovery].—Zts. Schiess & Sprengstoffw., Sept. 1, 1913; p 325; 2800 w*; 35c.

Egerton, Alfred.—*Wärmeprobe.* [The heat test of explosives] (Abstract translation of address before Soc. Chem. Ind.).—Zts. Schiess & Sprengstoffw., Oct. 15, 1913; p 390; 2200 w*; 35c.

Fallon, C. M.—*"Missed Holes" and the Remedy.*—Mg. & Eng. World, Aug. 30, 1913; p 384; 800 w; 10c.

Gullachsen, B. C.—*Electric Blasting on the Rand.*—S. Afr. Mg. Jnl., Oct. 18, 1913; p 162; 1300 w; 35c.

Gunsaulus, Edwin N.—*Rand Mine Blasting by Electricity.* (U. S. Consular Report).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 250 w; 10c.

Hall, Clarence.—*Permissible Explosives.* (Abstract from Bureau of Mines Technical Paper No. 52).—M. & S. P., June 28, 1913; 700 w; 20c.

Hall, Clarence, and Howell, Spencer P.—*The Selection of Explosives Used in Engineering and Mining Operations.*—Bull. 48, U S. Bureau of Mines; 50 pp*.

Hall, Clarence, and Howell, Spencer P.—*Investigations of Detonators and Electric Detonators.*—Washington, D. C.; Bull. 59, U. S. Bureau of Mines; 73 pp*.

Harger, John.—*Firedamp in Mines and the Prevention of Explosions.* (Abstract of lecture before Manchester Geol. & Mg. Soc.).—Ir. & C. Trades Rev., Nov. 14, 1913; p 761; 1700 w; 35c.

Hartes, Charles S.—*Tamping.*—Mex. Mg. Jnl., Dec., 1913; p 573; 2300 w; 35c.

Heymann, L.—*The Quantitative Determination of Nitrous Fumes in Firing (Cheesa) Sticks.*—Jnl. Chem., Met. & Mg. Soc. S. Af., April, 1913; p 464; 2000 w*; 50c.

Higgins, Edwin.—*Safety in the Mines of the Iron Ranges.* (Abstract of paper read before Lake Sup. Mg. Inst.).—Mg. & Eng. World, Sept. 13, 1913; p 461; 3500 w; 10c.

Hurter, Charles S.—*Electric Blasting.*—M. & S. P., Nov. 8, 1913; p 734; 850 w; 20c.

Kummer, Wolfgang.—*Die Herstellung von Zündhütchen, Zündschnüren und Zündern.* [The manufacture of caps, fuses and igniters].—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 1, 1913; p 453; 2500 w; 35c.

Lawes, Vivian B.—*Die Prüfung von Sicherheitssprengstoffen.* [The testing of safety explosives] (Translataion from Jnl. Royal Soc. of Arts, April 4, 1913).—Zts. Schiess & Sprengstoffw., July 1, 1913; p 245; 3500 w; July 15; p 267; 2600 w; 70c.

Le Roy, E.—*An Electric Time Fuse.*—M. & S. P., Dec. 20, 1913; p 972; 750 w*; 20c.

Mayer, Ralph W.—*Powder Regulation in the State of Washington.*—Coal Age, July 19, 1913; p 97; 1000 w; 20c.

Meissner, G.—*Studien über Nitrierung der Cellulose und Zersetzung der Nitrocellulose durch Säuren und Alkali.* [Studies on the nitration of cellulose and the decomposition of nitrocellulose by means of acids and alkalis].—Zts. Schiess & Sprengstoffw., July, 1913; p 252; 3200 w; July 15; p 269; 1900 w; 70c.

Moynihan, E. J.—*Electric Blasting on the Rand.*—S. Af. Mg. Jnl., Sept. 27, 1913; p 96; 1200 w; 35c.

Munroe, Charles E.—*Die Entwickelung des Explosivstoffwesens in den Vereinigten Staaten während der letzten drei Jahre.* [Explosives in the United States during the last three years] (Translation of communication to Eighth Internat. Cong. Applied Chem.).—Zts. Schiess & Sprengstoffw., Sept. 1, 1913; p 328; 2000 w; 35c.

Munroe, H. S.—*Shaft-Sinking Methods at Butte.*—E. & M. J., Aug. 30, 1913; p 389; 1500 w; 25c.

Olcott, W. J.—*Hints to Handlers of Explosives.* (Abstract from printed rules for employes of Oliver Iron Co.).—Mg. & Eng. World, Dec. 27, 1913; p 1151; 2000 w; 10c.

Pringle, L. B.—*"Missed Holes" in Open-Pit Mining on the Mesabi Range.*—Mg. & Eng. World, Sept. 27, 1913; p 548; 650 w; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Sept. 20, 1913; p 509; 4000 w*; Sept. 27, 1913; p 556; 3000 w*; 20c.

Spielmann, Alexander.—*Ueber Sprengarbeit in den Betrieben der Ton, Zement und Kalkindustrie.* [On the use of explosives in the clay, cement and lime industry] (Address before the German Asso. for the Clay, Cement and Lime Industry).—Zts. Schiess. & Sprengstoffw., Nov. 1, 1913; p 409; 3000 w; Nov. 15, 1913; p 428; 2500 w; 70c.

Taffanel, J.—*Neue Erfahrungen über den Steinkohlenstaub und über die Mittel, seine Gefahren zu bekämpfen.* [Recent experiences with coal dust and with means for combating its dangers] (Translated from Annales de Mines).—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 1, 1913; p 456; 3000 w*; 35c.

Taffanel, J.—*Station d'Essais de Liévin.* [The Liévin testing station, France] (Report to Assemblée Générale du Comité Central des Houillères de France).—Bull. Soc. Amicale Douai, Aug. 25, 1913; p 564; 3500 w; 35c.

Weber, H. C. P.—*A Modified Form of Stability Test for Explosives.* (Paper presented at Eighth Int. Cong. of Appld. Chem.).—Jnl. Ind. & Engg. Chem., Aug., 1913; p 641; 4000 w*; 65c.

Woltersdorf, Bergassessor.—*Das Verhalten von Kohlenstaub mit verschiedenem Feuchtigkeitsgehalt gegen Schüsse von Schwarzpulver und Gurdynamit.* [The behavior of coal dust of various moisture content toward shots of black powder and dynamite].—Glückauf, Aug. 30, 1913; 4500 w; 50c.

Woodbridge, Dwight E.—*Handling Explosives on the Iron Ranges.* (Abstract from Tech. Paper 30, U. S. Bureau of Mines).—Mg. & Eng. World, Nov. 29, 1913; p 975; 1000 w; 10c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report*—Technical Paper 41, U. S. Bureau of Mines; 43 pp*.

———. *Blast-Hole Drilling in Open-Pit Copper Mining at Copper Flat, Nev.*—M. & S. P., Oct. 25, 1913; p 643; 2600 w*; 20c.

———. *Die internationale Kommission zur Vereinheitlichung der Untersuchungsmethoden für die Haltbarkeit von Explosivstoffen.* [The international commission for standardization of methods for investigating the stability of explosives] (Abstract of report).—Zts. Schiess & Sprengstoffw., Sept. 15, 1913; p 345; 2200 w; Oct. 1; p 370; 1100 w; 70c.

———. *Drilling Mesabi Gopher Holes.*—E. & M. J., Dec. 20, 1913; p 1169; 700 w*; 25c.

———. *Government Analysis of Black Powder and Dynamite.* (Abstract of Bull. 51, U. S. Bureau of Mines).—Mg. & Eng. World, Aug. 2, 1913; p 203; 400 w; 10c.

———. *La Puissance des Explosifs.* [The power of explosives].—Revue Industrielle, June 7, 1913; p 15; 1400 w; 35c.

———. *Products of Explosion* (Abstract from Bull. 48, U. S. Bureau of Mines).—E. & M. J., Aug. 2, 1913; p 213; 800 w; 25c.

———. *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

———. *Safety Rules—Blasting.* (From Inland Steel Co.'s book of rules).—E. & M. J., Aug. 9, 1913; p 259; 500 w; 25c.

———. *Sprengstoffe für Grubenarbeiten.* [Explosives for mining work].—Kali, Erz & Kohle, Sept. 25, 1913; p 955; 1000 w; 35c.

———. *Steam-Shovel Work.* (Abstract from Handbook of Steam-Shovel Work issued by Bucyrus Co.).—E. & M. J., Dec. 27, 1913; p 1221; 1000 w*; 25c.

———. *Technische Fortschritte im Bergwerkswesen.* [Technical advances in mining] (Abstract from Zts. Berg, Hütten & Salinenw.).—Kali, Erz & Kohle, Sept. 25, 1913; p 956; 1500 w; 35c.

———. *The Safe Handling of Missed Holes.*—E. & M. J., Nov. 29, 1913; p 1030; 900 w; 25c.

———. *The Testing of Explosives.* (Thirty-fifth annual report of H. M. Inspectors, Great Britain).—Colly. Guard., London, Aug. 15, 1913; p 320; 5000 w*; 45c.

SHAFTS AND SHAFT SINKING.

Albrecht, Bergassessor.—*Das Schachtabteufen nach dem Verfahren von Kind-Chaudron im Oberbergamtsbezirk Clausthal.* [Shaft sinking according to the Kind-Chaudron method in the Clausthal mining district].—Zts. Berg, Hütten & Salinew., Vol. 61, Part 2, 1913; p 223; 10,000 w*; $1.50.

Alcott, W. J.—*Safety Regulations in Underground Mining.* (Abstract from printed rules of Oliver Iron Mg. Co.).—Mg. & Eng. World, Dec. 6, 1913; p 1014; 3600 w; 10c.

Barry and Jacobovics.—*Die Anwendung des Gefrier- und Zementierverfahrens beim Abteufen des Kalischachtes Wendland.* [The application of the freezing and cementation process in sinking the Wendland potash shaft, Germany].—Glückauf, Nov. 15, 1913; p. 1886; 3400 w*; 50c.

Blau, Ernst.—*Kreiselpumpen für Zwecke des Abteufens und des Sümpfens von Schächten.* [Turbine pumps in sinking and unwatering of shafts].—Kohle & Erz, Oct. 20, 1913; p 2010; 800 w; 35c.

Botsford, H. L.—*Some of the Types of Inclined Mine Shaft Rollers.*—Mg. & Eng. World, Dec. 20, 1913; p 1110; 350*; 10c.

Botsford, H. L.—*Types of Headframes.*—E. & M. J., Oct. 11, 1913; p 690; 2400 w*; 25c.

Bushell, B. D.—*Sinking Against Water on the Rand.* (Trans. Inst. Mg. & Met.; abstract).—E. & M. J., June 14, 1913; p 1201; 2000 w*; 25c.

Cole, A. A.—*Mining Methods at Porcupine, Ont.* (Abstract of report to T. & N. O. Ry. Commission).—Can. Mg. Jnl., June 15, 1913; p 375; 1700 w; 35c.

DeCamp, W. V.—*Sinking with Delay Action Fuses.*—E. & M. J., July 12, 1913; p 65; 1000 w*; 25c.

Dickson, Robert H.—*Aligning Concrete Forms in Shaft.*—E. & M. J., Aug. 9, 1913; p 259; 600 w*; 25c.

Donaldson, Francis.—*The Sinking and Lining of Shafts.*—Proceedings of the Engineers' Club, Philadelphia, Oct., 1913; p 341; 18 pp*; 65c. M. & S. P., Nov. 29, 1913; p 844; 4000 w*; 20c.

Eddy, Lewis H.—*Deep Shaft Development at Placerville, California.*—E. & M. J., Dec. 6, 1913; p 1067; 1400 w; 25c.

Edwards, Geo. E.—*Season's Developments on the Lake Iron Ranges.*—Mg. & Eng. World, Nov. 8, 1913; p 825; 4000 w*; 10c.

Hann, Edmund L.—*The Sinking and Equipping of Bedwas Colliery.* (Paper read before S. Wales Inst. of Engrs.; abstract).—Colly. Guard., London, Sept. 5, 1913; p 473; 6500 w*; 35c. I. & C. Tr. Rev., London, Sept. 12, 1913; p 415; 7000 w*; 35c.

Harris, A. Carr.—*Giving Line for Raising to Shaft.*—E. & M. J., Nov. 15, 1913; p 923; 300 w*; 25c.

Hirschberg, Charles A.—*Shaft Sinking under Difficulties.*—Coal Age, Nov. 29, 1913; p 803; 1400 w*; 20c.

Kellogg, L. O.—*Concrete Headframe with Fleeting Device.*—E. & M. J., Nov. 15, 1913; p 924; 1000 w*; 25c.

Kneip, Leo H. P.—*Isabella Knockdown Iron Ladder.*—E. & M. J., Sept. 27, 1913; p 591; 300 w*; 25c.

Marcellus, Roy.—*Light Safety Crosshead.*—E. & M. J., Sept. 13, 1913; p 497; 300 w*; 25c.

Muir, Douglas.—*Station Suspended in a Circular Shaft.*—E. & M. J., Oct. 4, 1913; p 639; 200 w*; 25c.

Munroe, H. S.—*Shaft-Sinking Methods at Butte.*—E. & M. J., Aug. 30, 1913; p 389; 1500 w; 25c.

Rex.—*Recent Practice in the Congelation Process of Shaft Sinking;* [Great Britain].—Sci. & Art of Mg., May 24, 1913; p 492; 2000 w*; 35c.

Rice, Claude T.—*Concrete Shaft Station at the Wolverine Mine, Michigan.*—E. & M. J., Aug. 30, 1913; p 397; 1600 w*; 25c.

Rice, Claude T.—*Framing Shaft Timber Sets by Machinery.*—Mg. & Eng. World, July 12, 1913; p 49; 4800 w*; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 16, 1913; p 287; 2200 w*; Oct. 11, 1913; p 645; 4500 w; 20c.

Rice, Claude T.—*Shaft Timbering in Butte Copper Mines.*—Mg. & Eng. World, Oct. 18, 1913; p 695; 6700 w*; Nov. 8, 1913; p 829; 3000 w*; Nov. 22, 1913; p 917; 4000 w*; Dec. 6, 1913; p 1006; 5000 w*; Dec. 20, 1913; p 1107; 3200 w; Dec. 27, 1913; p 1139; 2800 w*; 60c.

Roberts, Jr., W. H.—*Carrying the Meridian Underground.*—Coll'y Engr., Sept., 1913; p 95; 1000 w*; 35c.

Scholz, Carl.—*Steel in Mine Construction; Advantages of Increased Use of Steel Both Above and Below Ground, and Some New Methods of Application.* (Address at dedication of Mg. Laboratories at Univ. of Ill.).—Colliery Engr., Aug., 1913; p 30; 2000 w*; 35c.

Scott, E. Kilburn.—*Electric Cables for Shafts of Mines.*—Mg. Engg., June, 1913; p 104; 3500 w*; July, 1913; p 136; 2500 w*; 70c.

Storms, W. H.—*Shaft Timbering in Swelling Ground.*—E. & M. J., Sept. 13, 1913; p 498; 1000 w*; 25c.

Tarr, S. W.—*Relining No. 2 Hamilton Shaft, Mich.* (Abstract of paper read before L. S. Mg. Inst.).—E. & M. J., Oct. 11, 1913; p 680; 3000 w*; 25c.

Walker, Sydney F.—*The Cementation Process for Sinking Shafts.*—Colly. Engr., Nov., 1913; p 234; 1600 w*; 35c.

Warriner, R. C.—*Centralized Organization at the Crown Mines, South Africa.* (Paper read before S. Af. Inst. Engrs.).—S. Af. Engg., London, May, 1913; (first installment); p 105; 7000 w*.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report*—Technical Paper 41, U. S. Bureau of Mines; 43 pp*.

———. *Circular Ventilating Shaft on the Rand.*—S. Af. Mg. Jnl., May 17, 1913; p 290; 1200 w; 35c.

———. *Concrete Drop Shaft;* [Adams Mine near Deerwood, Minn].—E. & M. J., June 14, 1913; p 1194; 1100 w*; 25c.

———. *Concrete Shaft Lining* (Translated from Annales des Mines de Belgique).—Coal Age, June 21, 1913; p 950; 200 w*; 20c.

———. *Concrete Station at the Champion Mine, Michigan.*—E. & M. J., Oct. 4, 1913; p 641; 500 w*; 25c.

———. *Concrete Stringers in Steep Inclines.*—E. & M. J., June 28, 1913; p 1290; 600 w*; 25c.

———. *Concreting Methods in Michigan Copper Shafts.*—E. & M. J., July 12, 1913; p 66; 400 w*; 25c.

———. *Costs and Development at the Ahmeek Mine, Mich.* (Abstract of annual report).—Mg. & Eng. World, June 28, 1913; 1400 w*; 10c.

——— *Depths of Shafts at Cripple Creek, Colo.* (Abstract from Cripple Creek Times-Record).—M. & S. P., Nov. 8, 1913; p 734; 850 w; 20c.

———. *Derrick for Sinking 557 Feet.*—E. & M. J., July 19, 1913; p 117; 700 w*; 25c.

———. *Ein neuer Weltrekord om Tunnelbau.* [A new world's record in tunnel driving].—Bergbau, July 3, 1913; p 435; 900 w; 35c.

———. *Freezing Process in Shaft Sinking.* (Abstract from Glückauf).—Mg. & Eng. World, Aug. 2, 1913; p 200; 250 w; 10c.

——— *Hand Hammer Drills in Shaft Sinking.*—Coal Age, Aug. 16, 1913; p 231; 1500 w*; 20c.

——— *Mining Methods on the Mesabi Range.* (Trans. L. S. Mg. Inst.; abstract).—Ir. Tr. Rev., Sept. 11, 1913; p 450; 5000 w*; 25c.

———. *New Circular Shaft on the Rand.*—E. & M. J., Aug. 9, 1913; p 245; 300 w; 25c.

———. *Niederbringen von Senkschächten;* [Sinking of shaft walling].—Montan-Ztg., June 1, 1913; p 209; 700 w; 35c.

———. *Repairing 12-in. Shaft Without Removal.* [Application of the thermit process].—E. & M. J., June 28, 1913; p 1281; 900 w*; 25c.

——— *Safety Gates for Shafts.*—Colly. Engr., Oct., 1913; p 162; 1400 w*; 35c.

——— *Shaft-Sinking Cementation Process.*—Mg. & Eng. World, Oct. 15, 1913; p 705; 500 w*; 10c.

——— *Some Methods of Shaft Timbering in South Africa.*—S. Af. Engg., Sept., 1913; p 53; 2300 w*; 35c.

——— *Wirtschaftliche Vorteile durch Verwendung von Beton im Bergbau.* [Economic advantages in the use of concrete in mining].—Kali, Erz & Kohle, Dec. 15, 1913; p 1251; 1100 w; 35c.

TUNNELS AND TUNNELING

Bancroft, George J.—*Some of the Great Tunnels of the World.*—Mg. Sci., Nov., 1913; p 267; 4000 w; 35c.

Brunton, David W., and Davis, John A.—*Safety in Tunneling.* (Miners' Circular No. 13, U. S. Bur. Mines).—Coal Tr. Bull., Dec. 1, 1913; p 30; 7000 w; 25c.

Fisher, Howell T.—*Progress in the Mount Royal Railroad Tunnel, Canada.*—E. & M. J., July 26, 1913; p 147; 1500 w*; 25c.

MINE WATERS; PUMPS.

Aikens, Warren.—*Motor Drive at Zinc Mines and Mills.*—Mg. & Eng. World, Oct. 25, 1913; p 731; 2000 w*; 10c.

Alcott, W. J.—*Safety Regulations in Underground Mining.* (Abstract from printed rules of Oliver Iron Mg. Co.).—Mg. & Eng. World, Dec. 6, 1913; p 1014; 3600 w; 10c.

Blau, Ernst.—*Kreiselpumpen für Zwecke des Abteufens und des Sümpfens von Schächten.* [Turbine pumps in sinking and unwatering of shafts].—Kohle & Erz, Oct. 20, 1913; p 2010; 800 w; 35c.

Brunton, D. W.—*Mining Problems and the Mining Congress.* (Presidential address delivered before Am. Mg. Cong.).—M. & S. P., Nov. 22, 1913; p 815; 4200 w; 20c.

Bushell, B. D.—*Sinking Against Water on the Rand.* (Trans. Inst. Mg. & Met.; abstract).—E. & M. J., June 14, 1913; ep 1201; 2000 w*; 25c.

Colledge, Alexander.—*Dredging for Tin in the Malay States.*—Mg. Mag., July, 1913; p 57; 2000 w*; 35c.

Crocker, William J.—*Standardizing Mine Supplies and Work.*—Mg. & Eng. World, Nov. 22, 1913; p 927; 1900 w; 10c.

Daugherty, R. L.—*The Theory of Centrifugal Pumps.*—Power, July 15, 1913; p 79; 3500 w*; 20c.

Del Mar, Algernon.—*Automatic Water Bucket Dumper.*—E. & M. J., Sept. 20, 1913; p 545; 350 w*; 25c.

Eddingfield, F. T.—*Alteration and Enrichment in Calcite-Quartz-Manganese Gold Deposits in the Philippine Islands.*—Philippine Jnl. of Sci., April, 1913; p 125; 10 pp; 65c.

Eddy, L. H.—*Repairing a California Gold Dredge.*—E. & M. J., Aug. 23, 1913; p 340; 1200 w; 25c.

Emmons, W. H., and Harrington, G. L.—*A Comparison of Waters of Mines and of Hot Springs.*—Economic Geol., Oct., 1913; p 653; 17 pp*; 65c.

Febles, J. C.—*Precipitation of Copper from Mine Waters.* (Transactions Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 23, 1913; 2500 w; 10c.

Gibson, J. E., and Wright, S. H.—*Suction Gas Producer Pumping Engine vs. Compound Condensing Corliss Crank and Fly Wheel Pumping Engine.*—Proceedings Engrs.' Club, Philadelphia, Oct., 1913; p 371; 24 pp*; 65c. Power, Dec. 2, 1913; p 788; 1400 w; 20c.

Gillie, John.—*Use of Electricity in Mining in the Butte District.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 22, 1913; p 926; 1300 w; 10c.

Hall, J. J., and Booth, F. L.—*Ashington and Ellington Collieries, Great Britain.*—Iron & Coal Trade Rev., London, Nov. 21, 1913; p 795; 9500 w*; 35c.

Heap, R. R.—*A Geological Drainage Problem in Southwestern Missouri.*—E. & M. J., Dec. 27, 1913; p 1205; 6000 w*; 25c.

Hughes, Ben.—*Draining Kerr Lake; A Novel Departure in Metal Mining.*—Mg. & Eng. World, Aug. 16, 1913; p 290; 500 w*; 10c.

Kalbhenn, Josef.—*Neuerungen auf dem Gebiete des Zementierverfahrens.* [Innovations in the cementing off of underground waters in shafts].—Bergbau, Aug. 7, 1913; p 513. 3000 w*; 35c.

Livermore, Robert.—*Development and Costs at the Kerr Lake, Ontario.* (Abstract of annual report).—Mg. & Eng. World, Oct. 4, 1913; p 605; 2900 w; 10c.

Meuskens, Cl.—*Stationäre Pumpenanlagen in Kaligruben.* [Stationary pumping plants in potash mines].—Kali, Aug. 1, 1913; p 377; 2000 w*; 35c.

Parma, Al.—*Ueber die Wahl und Oekonomie der Kraftmachinen;* [On the selection and economy of power machinery].—Kohleninteressent, June 1, 1913; p 135; 2500 w*; 35c.

Patchell, W. H.—*Application of Electric Power to Mines and Heavy Industries.*—New York, D. Van Nostrand Co,; 333 pp*; $4 (book).

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.*—Mg. & Eng. World, July 5, 1913; p 16; 2500 w*; July 12, 1913; p 69; 2800; 20c*.

Reeder, E. C.—*An Oklahoma Water Hoist.* [Means employed to remove water from an old coal mine].—Coal Age, June 28, 1913; 2000 w*; 20c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 9, 1913; p 241; 2250 w*; 10c.

Scholtze, G. — *Die Spiraldrahtpumpe, eine neue Wasserhebevorrichtung;* [The spiral-wire pump, a new device for raising water].—Kohle & Erz, June 9, 1913; p 586; 300 w*; 35c.

Sonntagg, Bergassessor.—*Die Entwässerung der Braunkohlenlagerstätten durch Flachbohrungen.* [The unwatering of lignite deposits by flat borings].—Technische Blätter, Aug. 31, 1913; p 281; 2100 w; 35c; Sept. 13; p 349; 2200 w*; 70c.

Strohm, R. C.—*Mechanics of Coal Mining.*—Colly. Engr., July, 1913; p 713; 1700 w*; Dec., 1913; p 307; 1600 w*; 70c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 29, 1913; p 963; 2500 w*; 10c.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Walker, Sidney S.—*Notes on Electric Pumps.*—E. & M. J., Oct. 18, 1913; p 723; 600 w; 25c.

Walsh, A. M.—*Pumping at the Comstock, Nevada.*—M. & S. P., Aug. 23, 1913; p 305; 2000 w*; 20c.

Ward, William F.—*Nechi River Placer Mining, Colombia.*—E. & M. J., Aug. 16, 1913; p 297; 3000 w*; 25c.

Wharton, H. E.—*A Home-Made Self-Loading and Dumping Water Skip.*—M. & S. P., Sept. 20, 1913; p 461; 250 w*; 20c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report*—(See under Lead.)

———. *Dredging in Victoria.*—Mg. & Engg. Rev., London, July 5, 1913; p 389; 2000 w; 35c.

——— *Tests of Disintegratiton of Cement Mortars by Alkali Salts, Mine Water Acids and Lubricating Oils.*—Cement, Aug., 1913; p 251; 3000 w; 20c.

———. *Wassertürme;* [Water towers].—Tonindustrie-Ztg., May 27, 1913; p 803; 300 w*; 35c.

MINE GAS, FIRE DAMP, ETC.

Burns, Daniel.—*Safety in Coal Mines, a Textbook of Fundamentals for Firemen and Other Workers in Mines.*—London, Blackie & Son; 158 pp*; $1 (book).

Burrell, George A., and Seibert, Frank M.—*Experiments with Animals in Carbon Monoxide.* (Paper read before Coal Mg. Inst. of Am.).—Coal Age, Dec. 27, 1913; p 969; 4000 w; 20c.

Chance, E. M.—*The Ability of the Acetylene Flame.*—Colly. Engr., Nov., 1913; 2400 w; 35c.

Cunynghame, Henry.—*On the Kinetic Theory of Gases.*—Coll'y Guard., May 30, 1913; p 1129; 3000 w*; June 27, 1913; p 1383; 4000 w; 70c.

Dixon, H. B., and Campbell, Colin.—*The Effect of Incombustible Dusts on the Explosion of Gases.*—Jnl. Soc. Chem. Ind., London, July 15, 1913; p 684; 4 pp; 65c.

Febles, J. C.—*Precipitation of Copper from Mine Waters.* (Paper presented at Butte Meeting Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 30, 1913; p 373; 2500 w; 10c.

Fillunger, August.—*Grubenbrände, deren Entstehung und Gewältigung unter besonderer Berücksichtigung der Verhältnisse des Steinkohlenbergbaues und der Schlagwettergruben.* [Mine fires, their cause and mastery, with special reference to the conditions of coal mining and of gaseous mines]. Montanist. Rundschau, Nov. 16, 1913; p 1085; 4500 w; 35c.

Forstmann, Berhassessor.—*Die verschiedenen Bauarten von Wetteranzeigern.* [The different types of mine-gas indicators].—Glückauf, June 28, 1913; p 1008; 9000 w*; July 5; p 1058; 5000 w*; $1.

Haber, F.—*Ueber Schlagwetteranzeige.* [On firedamp indicating]. (Address in the Keiser Wilhelm Inst. for Chem. & Electrochem.).—Chemiker-Ztg., Oct. 30, 1913; p 1329; 1600 w*; 35c.

Haber, F. —*Der Haber-Leiserche Schlagwetteranzeiger.* [The Haber-Lerser firedamp indicator].—Montanist. Rundschau, Nov. 16, 1913; p 1099; 1500 w*; 35c.

Harger, John.—*Firedamp in Mines and the Prevention of Explosions.* (Abstract of lecture before Manchester Geol. & Mg. Soc.). —Ir. & C. Trades Rev., Nov. 14, 1913; p 761; 1700 w; 35c.

Paul, James W.—*The Use and Care of Miners' Safety Lamps.*—Miners' Circular 12, U. S. Bureau of Mines; 16 pp*.

Powell, J. W.—*A Gas-Ignition Controversy.* [Theory of the explosion of the Bellevue coal mine, Alberta, Dec. 9, 1910].—Coal Age, June 28, 1913; p 985; 4000 w*; 20c.

Rice, Geo. S.—*Influence of Inert Gases in Inflammable Mixtures.* (Tech. paper, U. S. Bureau of Mines; abstract),—C. & C. Opr., Sept. 25, 1913; p 482; 1500 w; 25c.

Rutledge, J. J.—*Ventilation of Mines and Removal of Gas.* (Paper read before Alabama Coal Operators' Assn.).—C. & C. Opr., Aug. 14, 1913; p 339; 7000 w; 20c. Colly. Engr., Sept., 1913; p 81; 7500 w; 35c. Coal Tr. Bull., Sept. 1, 1913; p 55; 3000 w; Sept. 15, 1913; p 50; 2000 w; 50c.

Rybak, O.—*Der Einfluss des Methans auf den menschlichen Organismus.* [The influence of methane on the human organism].—Montanist. Rundschau, No. 17, 1913; p 822; 1900 w; 35c.

Stauch, Karl.—*Die staatliche Versuchsanstalt für Schlagwetter, Kohlenstaub, Brandgase, usw. in Brux.* [The government experiment station for firedamp, coal dust, etc., in Brüx, Bohemia].—Montanist. Rundschau, No. 17, 1913; p 829; 1200 w; 35c.

Walsh, A. M.—*Pumping at the Comstock, Nevada.*—M. & S. P., Aug. 23, 1913; p 305; 2000 w*; 20c.

———. *An Instrument for Measuring the Flow of Air or Gas.*—Coal Age, July 5, 1913; p 15; 450 w*; 20c.
35c.

——— *Automatic Air Drill Lubricator.* —E. & M. J., Dec. 13, 1913; p 1123; 450 w*; 25c.

———. *Coal Mine Ventilation.* (Continuation).—Coll'y Engr., July, 1913; p 712; 1300 w; 35c.

———. *Die Einwirkungen der Verminderung des Sauerstoffgehalt der Luft auf die Sicherheitslampe;* [Effect of diminished oxygen supply on the safety lamp].—Technische Blätter, May 24, 1913; p 161; 1000 w; 35c.

——— *Mitteilungen über einige der bemerkenswertesten Explosionen beim preussischen Steinkohlenbergbau im Jahre* 1912. [Communications on some of the most noteworthy explosions in Prussian coal mining in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 313; 3400 w*; $1.50.

——— *Schlagwetter- und Kohlenstaubexplosionen in Preussen.* [Fire-damp and coal dust explosions in Prussia].—Bergwerks-Ztg., Nov. 12, 1913; p 1; 500 w; 35c.

——— *The New Coal-Dust Experiments, Great Britain.* (Fifth report of Explosions in Mines Committee).—Iron & Coal Tr. Rev., London, Nov. 21, 1913; p 803; 12,000 w; 35c.

——— *Ueber Schlagwetteranzeige.* [On firedamp indications].—Bergbau, Nov. 6, 1913; p 739; 1300 w; 35c.

VENTILATION

Blenkinsop, G. H.—*Ventilation of the Mines of the Rand.* (Paper read before Chem., Met. & Mg. Soc. S. Af.).—S. Af. Mg. Jnl. Nov. 1, 1913; p 1049; 2100 w; 35c.

Brunel, Frank P.—*Mine Ventilation.*—Colo. Sch. of Mines Mag., Aug., 1913; p 185; 7 pp; 35c.

Burns, Daniel.—*Safety in Coal Mines, a Textbook of Fundamentals for Firemen and Other Workers in Mines.*—London, Blackie & Son; 158 pp*; $1 (book).

Cunynghame, Henry.—*On the Kinetic Theory of Gases.*—Coll'y Guard., June 27, 1913; p 1383; 4000 w; 35c.

Gaskill, J. C.—*Common-Sense Mine Ventilation.* (Paper read before W. Va. Coal Mg. Inst.; abstract).—Coal Tr. Bull., Aug. 1, 1913; p 29; 25c.

Gerber, Dwight.—*Method of Supplying Preheated and Humidified Ventilating Air.* —Colly. Engr., Nov., 1913; p 229; 2500 w*; 35c.

Kegel, Bergingenieur.—*Die Bestimmung des Reibungswiderstandes von Gasen in Rohrleitungen und Strecken.* [The determination of friction resistance of gases in pipes and galleries].—Glückauf, Sept. 13, 1913; p 1516; 2500 w*; 50c.

King, Austin.—*Coal Mine Ventilation in the Connelsville Region.*—Coal Tr. Bull., Aug. 15, 1913; p 49; 3000 w; 25c.

Kyle, W.—*Empson's Apparatus for Analyzing Mine Air.* (Paper read before Yorkshire Branch Nat. Assn. Coll'y Mgrs.; abstract).—Mg. Engg., Aug., 1913; p 164; 1000 w*; 35c.

Louis, Henry.—*The Measurement of Air in Mines.* (Paper read before Northumberland and Durham Assn. of Coll'y Undermanagers; abstract).—Mg. Engg., London, Aug., 1913; p 154; 3000 w; 35c. Colly. Guard., London, June 20, 1913; p 1330; 3000 w*; 35c.

McCune, Robert.—*The Air Current and Mine Explosions.*—Coal Age, July 5, 1913; p 25; 700 w; 20c.

Patchell, W. H.—*Application of Electric Power to Mines and Heavy Industries.*—New York, D. Van Nostrand Co.; 333 pp*; $4 (book).

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 23, 1913; p 327; 4000 w*; 10c.

Rice, Claude T.—*Recent Advance in Butte Mining Practice.*—Mg. & Eng. World, July 26, 1913; p 143; 5300 w; 10c.

Rutledge, J. J.—*Ventilation of Mines and Removal of Gas.* (Paper read before Alabama Coal Operators' Assn.).—C. & C. Opr., Aug. 14, 1913; p 339; 7000 w*; 20c. Coal Tr. Bull., Sept. 1, 1913; p 55; 3000 w; Sept. 15, 1913; p 50; 2000 w; 50c. Coll'y Engr., Sept., 1913; p 81; 7500 w; 35c.

Schöttler, R.—*Regeln für Leistungsversuche an Ventilatoren und Kompressoren.* [Rules for capacity investigations of ventilators and compressors].—Fördertechnik, Aug., 1913; p 177; 2200 w*; 65c.

Vail, Richard H.—*New Smelter of United Verde Copper Co.*—E. & M. J., Aug. 23, 1913; p 341; 5000 w*; 25c.

———. *A Humidity Chart.*—Coal Age. July 12, 1913; p 62; 500 w*; 20c.

———. *Circular Ventilating Shaft on the Rand.*—S. Af. Mg. Jnl., May 17, 1913; p 290; 1200 w; 35c.

———. *Coal Mine Ventilation.* (Continuation).—Coll'y Engr., July, 1913; p 712; 1300 w; 35c.

——— *Methods of Ventilation and Dust-Prevention in Witwatersrand Mines.*—S. Af. Engg., Sept., 1913; p 57; 5000 w; 35c.

——— *Mine Ventilation.*—Coll'y Engr., Sept., 1913; p 112; 2600 w*; 35c.

———. *Mine Ventilation; Methods of Conducting Air through Mines; Legal Requirements of the Different States.*—Colliery Engr., Aug., 1913; p 45; 1400 w*;

——— *Technische Fortschritte im Bergwerkswesen.* [Technical advances in mining] (Abstract from Zts. Berg, Hütten & Salinenw.).—Kali, Erz & Kohle, Sept. 25, 1913; p 956; 1500 w; 35c.

———. *The Askern Colliery, England.*—Iron & Coal Tr. Rev., July 18, 1913; p 81; 4000 w*; 35c.

——— *Untersuchungen von Bergwerksmaschinen.* [Investigations of mining machinery].—Glückauf, Aug. 23, 1913; p 1331; 2200 w*; 50c.

———. *Ventilation of Butte Copper Mines.*—Mg. & Eng. World, June 21, 1913; p 1184; 1100 w; 10c.

MINE TEMPERATURES

Flegel, Kurt.—*Welche Erfolge sind bei Anwendung des elektrischen Widerstandsthermometers zu Temperaturmessungen in Tiefbohrlöchern für die Theorie und Praxis zu erwarten?* [What results for theory and practice are to be expected from the use of the electric resistance thermometer for the measurement of temperature in deep bore holes?].—Glückauf, Nov. 8, 1913; p 1847; 3000 w*; 50c.

Gerber, Dwight.—*Method of Supplying Preheated and Humidified Ventilating Air.*—Colly. Engr., Nov., 1913; p 229; 2500 w*; 35c.

Winmill, T. F.—*A Method of Measuring Goaf Temperatures.* (Paper read before Inst. Mg. Engrs.).—Colly. Guard., London, Sept. 26, 1913; p 631; 1300 w*; 35c.

——— *Dust-Allaying Appliances in Rand Mines.* (Abstract from government report).—S. Af. Mg. Jnl., Sept. 6, 1913; p 15; 3 pp; 35c.

———. *Temperatures at the Morro Velho Mine, Brazil.*—M. & S. P., Sept. 6, 1913; p 380; 1300 w*; 20c.

SUPPORTS

Additon, A. Sydney.—*Underestimating the Cost of Milling Plants.*—M. & S. P., July 26, 1913; p 138; 6000 w; 20c.

Alcott, W. J.—*Safety Regulations in Underground Mining.* (Abstract from printed rules of Oliver Iron Mg. Co.).—Mg. & Eng. World, Dec. 6, 1913; p 1014; 3600 w; 10c.

Angier, F. J.—*Treatment of Timber, Ties and Piling.*—Wood Pres. Wld., June, 1913; p 7; 2000 w; 35c.

Caldecott, W. A. and Powell, O. P.—*The Sand-Filling of Mines on the Rand.*—Jnl. Chem., Met. & Mg. Soc. of S. Af., Sept., 1913; p 119; 15 pp*; 75c.

Coldham, J. C.—*Underhand Stoping with Square Sets as Practiced in the Broken Hill Proprietary Mine.*—Trans. Australasian Inst. M. E., No. 10; 1913; 13 pp*; 75c.

Donaldson, Francis.—*The Sinking and Lining of Shafts.*—Proceedings of the Engineers' Club, Philadelphia, Oct., 1913; p 341; 18 pp*; 65c.

Eckel, Edwin C.—*Brown Iron Ores as Cavity Fillings.*—E. & M. J., July 5, 1913; p 1; 1400 w*; 25c.

Edwards, J. C., and Gibb, H. M.—*An Ideal Method of Coal Mining.*—Coll'y Engr., July, 1913; p 665; 3500 w*; 35c.

Fairweather, Andrew.—*Open Stoping on Wide Lodes in Australia.* (Abstract from Proc. Australasian Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 27, 1913; p 1145; 2800 w; 10c.

Gall, W. C.—*Filling Distribution at the North Mine, Australia.*.—Trans. Australasian Inst. M. E., No. 10; 1913; p 176; 5 pp*; 75c.

Gamzon, L.—*Hydraulic Stowing at French Collieries.*—Colly. Engr., Dec., 1913; p 289; 250 w; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Higgins, Edwin.—*Safety in the Mines of the Iron Ranges.* (Asbtract of paper read before Lake Sup. Mg. Inst.).—Mg. & Eng. World, Sept. 13, 1913; p 461; 3500 w; 10c.

Kegel, Bergingenieur.—*Zerlegbarer, mehrtiliger, hölzerner Grubenstempel, System Heidkamp.* [Disjointable, multiple-part, wooden mine props, Heidkamp system].—Bergbau, July 10, 1913; p 449; 2800 w*; 35c.

Kellogg, L. O.—*Dipping Tank for Mine Timber.*—E. & M. J., Dec. 27, 1913; p 1216; 300 w*; 25c.

Knox, George.—*Relation of Subsidence to Packing.* (Trans. Manchester Geol. & Mg. Soc.).—Coll'y Engr., Sept., 1913; p 87; 3400 w*; 35c.

Knox, George.—*Hydraulic Filling as Roof Support.* (Trans. Manchester Geol. & Mg. Soc.).—Colly. Engr., Nov., 1913; p 225; 3500 w*; 35c.

Martin, A. H.—*Sand Filling as Support of Mine Workings.*—M. & M., June, 1913; p 223; 4000 w; 20c.

Meyer, Kurt.—*Die Spülversatzanlage und die Klärung des Spülwassers auf dem Bahnschact der kons. Fürstensteiner Gruben.* [The flushing plant and the clarification of the flushing water at the hoisting shaft of the Consolidated Fürstenstein mine, Germany].—Glückauf, Aug. 30, 1913; p 1391; 2500 w*; 50c.

Pratt, Joseph Hyde.—*Biennial Report of the State Geologist* (of North Carolina), 1911-1912.—N. C. Geol. and Economic Surv.; 118 pp.

Pütz, O.—*Die technischen und wirtschaftlichen Vorzüge des ovalen Rohrquerschnittes gege nüber dem kreisrunden beim Spülversatzbetrieb.* [The technical and economic advantages of oval pipe cross section over-circular in hydraulic stowing].—Kohle & Erz, Sept. 1, 1913; p 866; 4000 w*; 35c.

Putz, O.—*Advantages of Oval over Circular Pipes for Hydraulic Gob Stowing.*—Iron & Coal Tr. Rev., London, Nov. 7, 1913; p 720; 8000 w*; 35c.

Rice, Claude T.—*Framing Shaft Timber Sets by Machinery.*—Mg. & Eng. World, July 12, 1913; p 49; 4800 w*; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 2, 1913; p 195; 3600 w*; Aug. 30, 1913; p 367; 5000 w*; Sept. 13, 1913; p 465; 2800 w*; Sept. 20, 1913; p 509; 4000 w*; 40c.

Rice, Claude T.—*Recent Advance in Butte Mining Practice.*—Mg. & Eng. World, July 26, 1913; p 143; 5300 w; 10c.

Rice, Claude T.—*Shaft Timbering in Butte Copper Mines.*—Mg. & Eng. World, Nov. 1, 1913; p 785; 3300 w*; Dec. 6, 1913; p 1006; 5000 w*; Dec 20, 1913; p 1107; 3200 w; Dec. 27, 1913; p 1139; 2800 w*; 40c.

Scholz, Carl.—*Steel in Mine Construction; Advantages of Increased Use of Steel Both Above and Below Ground, and Some New Methods of Application.* (Address at dedication of Mg. Laboratories at Univ. of Ill.).—Colliery Engr., Aug., 1913; p 30; 2000 w*; 35c.

Steen, Theodor.—*Die Beseitigung der Schlämme beim Spülversatz.* [The removal of slimes in hydraulic stowing].—Kohle & Erz, Sept. 1, 1913; p 918; 500 w*; 35c.

Storms, W. H.—*Shaft Timbering in Swelling Ground.*—E. & M. J., Sept. 13, 1913; p 498; 1000 w*; 25c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 29, 1913; p 963; 2500 w*; 10c.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Viannay, Victor, and Bauer, Julius.—*Ueber die Abnützung der Rohrleitungen beim Spülversatze.* [On the wear of delivery pipes in hydraulic stowing] (Abstract from Bull. et Comptes Rendus Mensuelle Soc. Minérale).—Kohleninteressent, July 1, 1913; p 163; 1200 w*; July 15; p 177; 800 w; 70c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report*—(See under Lead.)

———. *A New System of Pit Propping.*—Coll'y Guard., June 27, 1913; p 1385; 1000 w*; 35c.

———. *Concreting Methods in Michigan Copper Shafts.*—E. & M. J., July 12, 1913; p 66; 400 w*; 25c.

——— *Kick-Off for Discharging Timbers from Log-Haul.*—Mg. & Eng. World, Sept. 6, 1913; p 431; 700 w*; 10c.

——— *Lining the Flush Pipe.*—Coal Age, July 19, 1913; p 82; 1250 w*; 20c.

——— *Some Methods of Shaft Timbering in South Africa.*—S. Af. Engg., Sept., 1913; p 53; 2300 w*; 35c.

——— *Square-Set Framing at Butte, Mont.* (Abstract of paper read at Butte meeting Am. Inst. Mg. Engrs.).—E. & M. J., Nov. 8, 1913; p 878; 1100 w*; 25c.

——— *Wirtschaftliche Vorteile durch Verwendung von Beton im Bergbau.* [Economic advantages in the use of concrete in mining].—Kali, Erz & Kohle, Dec. 15, 1913; p 1251; 1100 w; 35c.

LIGHTING

Allen, Irving C., and Crossfield, A. S.—*The Flash Point of Oils; Methods and Apparatus for Its Determination;* [Lamp oils for mine use].—Technical Paper 49. U. S. Bureau of Mines; pp. 31. Petr. Wld., London, Sept., 1913; p 427; 10,000 w; 35c.

Allen, Irving C., and Crossfield, A. S.—*Investigations with the U. S. Bureau of Mines Modification of the Abel-Pensky and Pensky-Martens Flash-Point Testers.* (Paper presented before Am. Chem. Soc.).—Jnl. Ind. & Engg. Chem., Nov., 1913; p 908; 4000 w; 35c.

Amedeo and Rosenberg.—*Carbure-Acetylene Congres de Rome;* [Congress for carbide and acetylene at Rome].—Journal du Four Electriq., May 15, 1913; p 232; 3500 w; 35c.

Aust, J. F.—*Practical Notes on Colliery Electrical Equipment.* (Paper read before Lancashire Branch Assn. Mg. Elec. Engrs.).—Iron & Coal Trade Rev., Dec. 5, 1913; p 886; 2500 w*; 35c.

Balliet, Letson.—*Some Mistakes Made in Mine Management.*—Mg. & Eng. World, Dec. 6, 1913; p 1023; 2500 w; 10c.

Beard, J. T.—*Mixed Lights in Coal Mining.*—Coal Age, June 14, 1913; p 927; 1300 w; 20c.

Chance, E. M.—*The Ability of the Acetylene Flame.*—Colly. Engr., Nov., 1913; 2400 w; 35c.

Clark, H. H.—*The Use of Portable Electric Mine Lamps.* (Technical paper No. 47, U. S. Bureau of Mines; abstract).—Mg. & Eng. World, Aug. 30, 1913; p 381; 2200 w; 10c.

Clark, H. H.—*Portable Electric Mine Lamps in Mine Work.* (Address delivered before Coal Mg. Inst. America).—Mg. & Eng. World, Dec. 6, 1913; p 1019; 5000 w; 10c. M. & S. P., Dec. 13, 1913; p 934; 1000 w; 20c.

Crocker, William J.—*Standardizing Mine Supplies and Work.*—Mg. & Eng. World, Nov. 22, 1913; p 927; 1900 w; 10c.

Fisken, J. B.—*Electrical Applications the Coeur d'Alenes* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 26, 1913; p 149; 3000 w*; 10c.

Hallwood, E. A.—*A Defense of the Flame Safety Mine Lamp.* (Abstract of paper read before Am. Mg. Cong.).—Coal Age, Nov. 29, 1913; p 814; 3200 w; 20c.

Iremonger, R. S.—*Some Notes on Mine*

Lighting.—Coal Age, Dec. 6, 1913; p 845; 1600 w*; 20c.

Lemaire, Emannuel.—*Das Erwärmen der Drahtgeflechte der Sicherheitslampen in heissen Atmosphären;* [The heating of the wire gauze of safety lamps in hot atmospheres] (Experiments in Belgium; abstract from Annales des Mines de Belgique).—Zts. Zentral-Verbd. Bergbau-Betriebsl., June 1, 1913; p 322; 2400 w; 35c.

Paul, James W.—*The Use and Care of Miners' Safety Lamps.*—Miners' Circular 12, U. S. Bureau of Mines; 16 pp*.

Rice, Claude T.—*Use and Abuse of Acetylene Lamps Underground in Mines.*—Mg. & Eng. World, Nov. 15, 1913; p 885; 3200 w; 10c.

Schorrig, Ernst.—*Die Verwendung tragbarer elektrischer Lampen im Bergwerksbetriebe, unter besonderer Berücksichtigung des Kalibergbaues.* [The use of portable electric lamps in mining, with particular reference to potash mining] (From an address before XII General German Miners' Congress at Breslau).—Kali, Oct. 1, 1913; p 484; 3500 w*; Nov. 1, 1913; p 537; 4000 w*; Nov. 13; p 753; 1000 w; $1.05.

Seddon, William.—*The Lighting of Mines.*—C. & C. Opr., Oct. 16, 1913; p 535; 2500 w; 20c.

Smith, E. E.—*Acetylene as Illuminant in Mines.* (Abstract of paper read before Internat. Acetylene Assn.).—Mg. & Eng. World, Dec. 20, 1913; p 1111; 2600 w; 10c.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Walker, Sydney F.—*The Difficulties Involved in Adding a Gas Detector to Portable Electric Lamps.*—Iron & Coal Tr. Rev., Nov. 28, 1913; p 841; 1800 w; 35c.

———. *Acetylene Lamps in Coal Mines; Tests of Carbide Lamps and Oil Lamps to Show Their Behavior in Atmospheres Containing Carbon Dioxide.*—Colliery Engr., Aug., 1913; p 49; 2000 w; 35c.

———. *A New Mining Lamp* ["Bulldog" electric].—Coal Age, June 20, 1913; p 964; 500 w*; 20c.

——— *Approved Safety Lamps.* [Approved under Coal Mines Act, Great Britain].—I. & C. Tr. Rev., London, Sept. 12, 1913; p 420; 3000 w*; Sept. 19; 4000 w*; 70c.

——— *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

——— *Technische Fortschritte im Bergwerkswesen.* [Technical advances in mining] (Abstract from Zts. Berg, Hütten & Salinenw.).—Kali, Erz & Kohle, Sept. 25, 1913; p 956; 1500 w; 35c.

———. *The Use of Portable Electric Lamps in Mine Works.*—Mg. & Eng. World, July 19, 1913; p 108; 750 w; 10c.

TELEPHONES AND SIGNALLING

Brown, Gregory.—*Cable Wiring for Mine Telephones.*—Coal Age, Dec. 6, 1913; p 856; 2600 w*; 20c.

Colburn, E. A., Jr.—*An Electric Mine-Signal System.*—M. & S. P., Aug. 30, 1913; p 340; 700 w*; 20c.

Dobblestein, O.—*Wireless Telephone for Pit Use.* (Abstract from Glückauf).—I. & C. Tr. Rev., London, June 6. 1913; p 928; 1500 w; 35c.

Fisken, J. B.—*Electrical Applications in the Coeur d'Alenes* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 26, 1913; p 149; 3000 w*; 10c.

Götz, Otto.—*Doppel-Schachtsignal und Fernsprecharlage der Gewerkschaft Bartensleben.* [Double shaft-signal and telephone system of the Bartensleben Mg. Co.].—Kali, Nov. 1, 1913; p 529; 1500 w*; 35c.

Kersten, J.—*Installation dans les Puits de Mines de Signaux Pouvant être Manoeuvrés des Cages en Mouvement.* [Installation of signals in mine shafts for controlling cages in motion].—Annales des Mines Belgique, 1913, Vol. 18, No. 3; p 697; 3700 w*; 65c.

Ohnesorge, Otto.—*Die Förderkorbund Grubentelephonie Reinke.* [The Reinke hoisting-cage and mine telephony].—Bergbau, Aug. 31, 1913; p 565; 4000 w*; 35c.

Packard, George A.—*Evolution of an Electric Signal System.*—E. & M. J., Oct. 18, 1913; p 737; 1300 w*; 25c.

Rost, Helge.—*Mine Telephony.*—Mex. Mg. Jnl., Sept., 1913; p 430; 2200 w; 35c.

———. *A New Mine-Rescue Telephone.*—Coal Age, June 21, 1913; p 960; 800 w*; 20c.

———. *Automatic-Telephone Systems for Mines.* [Editorial].—Mg. & Eng. World, Aug. 16, 1913; p 285; 500 w; 10c.

———. *Coal Mines Operated Under Direction of U. S. Bureau of Mines.*—Mg. & Eng. World, June 21, 1913; p 1195; 2000 w; 10c.

——— *La Telefonia sin Alambres en las Minas.* [The wireless telephone in mines] (Abstract from L'Industrie Electrique).—Madrid Cientifico, June 25, 1913; p 345; 200 w; 35c. Also in Revue Industrielle, July 5, 1913; p 10; 35c.

———. *Mine Recovery Telephone Equipment.*—Colliery Engr., Aug., 1913; p 62; 800 w*; 35c.

———. *Portable Mine Rescue Telephone.*—E. & M. J., Aug. 9, 1913; p 246; 300 w*; 25c.

——— *Mine Signaling at the Butte Copper Mines.*—Mg. & Eng. World, Oct. 25, 1913; p 749; 1750 w; 10c.

——— *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

HOISTS AND HOISTING

Aikens, Warren.—*Motor Drive at Zinc Mines and Mills.*—Mg. & Eng. World, Oct. 25, 1913; p 731; 2000 w*; 10c.

Alcott, W. J.—*Safety Regulations in Underground Mining.* (Abstract from printed rules of Oliver Iron Mg. Co.).—Mg. & Eng. World, Dec. 6, 1913; p 1014; 3600 w; 10c.

Balliet, Letson.—*Counterbalancing Hoists.*—S. L. Mg. Rev., Nov. 30, 1913; p 24; 2000 w*; 25c.

Baumann, F.—*Seilsicherheit bei der Schachtförderung.* [Rope safety in shaft hoisting].—Kohle & Erz, Sept. 1, 1913; p 882; 6000 w*; 35c.

Bernewitz, M. W. von.—*Power Plant at the Associated Mine, Kalgoorlie.*—M. & S. P., Aug. 30, 1913; p 346; 1700 w*; 20c.

Blau, Ernst.—*Die Leonard-Schaltung und ihre Andwendungen.* [The Leonard control and its applications].—Kohle & Erz, Aug. 18, 1913; p 818; 1400 w; 35c.

Blau, Ernst.—*Elektrisch betriebene Hauptschacht-Fördermaschinen mit Dampfturbinenantrieb der Analassdynamo.* [Electrically driven main-shaft hoisting engine with steam-turbine drive for the starting dynamo].—Elektrotechnik & Maschinenbau, Sept. 7, 1913; p 764; 2500 w*; 50c.

Boggess, M. W.—*Electric Hoisting on the Mother Lode.*—Jnl. Elec. P. & G., Sept. 6, 1913; p 211; 2000 w*; 35c.

Botsford, H. L.—*Some of the Types of Inclined Mine Shaft Rollers.*—Mg. & Eng. World, Dec. 20, 1913; p 1110; 350 w*; 10c.

Bratley, A. S.—*Winding Appliances, Winding Ropes and Capels; Past and Present.*—Iron & Coal Tr. Rev., London, Oct. 24, 1913; p 648; 8500 w*; 35c.

Bulkley, J. N.—*Efficiencies of Two Band Electric Hoists.*—E. & M. J., Aug. 2, 1913; p 211; 800 w*; 25c.

Del Mar, Algernon.—*Automatic Water Bucket Dumper.*—E. & M. J., Sept. 20, 1913; p 545; 350 w*; 25c.

Girdwood, Kennet J.—*Electric Hoisting and Electricity for Mining.* (Trans. Mex. Sec. Am. Inst. Elec. Engrs.).—Mex. Mg. Jnl., Sept., 1913; p 437; 2600 w*; 35c.

Hall, J. J., and Booth, F. L.—*Ashington* Iron & Coal Trade Rev., London, Nov. 21. 1913; p 795; 9500 w*; 35c.

Herbst, Fr.—*Die Berechnung des Sicherheitsfactors der Schachtförderseile mit gesenderter Berücksichtigung des Gewichts der Förderlast und des Seilgewichtes.* [The calculation of the factor of safety of shaft hoisting rope taking into consideration the weight of the load being hoisted and of the weight of the rope].—Glückauf, Nov. 22, 1913; p 1936; 3200 w*; 50c.

Herbst, Prof.—*Die Gefäss-Schachtförderung (Skipförderung) und der deutsche Bergbau.* [Skip hoisting and German mining].—Glückauf, Aug. 2, 1913; p 1209; 5000 w*; Aug. 9; p 1245; 6000 w*; $1.

Heyer, W.—*Ueber elektrische Schachtfördermaschinen.* [On electrical shaft-hoists].—Technische Blätter, Aug. 31, 1913; p 284; 2100 w; 35c.

Howard, L. O.—*The Silver King Coalition Mines, Utah.*—S. L. Mg. Rev., Nov. 30, 1913; p 11; 5000 w*; 25c.

Kellogg, L. O.—*Rear-Dumping Skip Car.*—E. & M. J., Nov. 8, 1913; p 877; 300 w*; 25c.

Kellogg, L. O.—*The Magnetite Mines Near Port Henry, N. Y.*—E. & M. J., Nov. 8, 1913; p 863; 4000 w*; 25c.

Kersten, J.—*Installation dans les Puits de Mines de Signaux Pouvant être Manoeuvrés des Cages en Mouvement.* [Installation of signals in mine shafts for controlling cages in motion].—Annales des Mines Belgique, 1913, Vol. 18, No. 3; p 697; 3700 w*; 65c.

Lowe, B. J.—*Erecting an Engine Underground.*—Coal Age, June 21, 1913; p 955; 850 w*; 20c.

McCullough, George, and Futers, T. C.—*Winding Engines and Winding Appliances.* 452 pp. $6 (book).

Munroe, H. S.—*Shaft-Sinking Methods at Butte.*—E. & M. J., Aug. 30, 1913; p 389; 1500 w; 25c.

Parma, Al.—*Ueber die Wahl und Oekonomie der Kraftmachinen;* [On the selection and economy of power machinery] (continuation).—Kohleninteressent, June 1, 1913; p 135; 2500 w*; 35c.

Patchell, W. H.—*Application of Electric Power to Mines and Heavy Industries.*—New York, D. Van Noshtrand Co.; 333 pp*; $4 (book).

Philippi, W.—*Sobre la Cuestion de la Economia en el Uso de las Maquinas Electricas de Extraccion en los Grandes Pozos.* [On the question of economy in the use of electrical hoisting machines in large shafts] (From Glückauf).—Revista Minera, July 24, 1913; p 357; 1800 w*; Aug. 1; p 371; 1500 w*; Aug. 8; p 388; 2200 w*; $1.05.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.*—Mg. & Eng. World, July 5, 1913; p 16; 2500 w*; July 12, 1913; p 69; 2800; 20c*.

Reeder, E. C.—*An Oklahoma Water Hoist.* [Means employed to remove water from an old coal mine].—Coal Age, June 28, 1913; 2000 w*; 20c.

Rice, Claude T.—*Mining Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 2, 1913; p 195; 3600 w*; Aug. 16, 1913; p 287; 3000 w*; 20c.

Rice, Claude T.—*Recent Advance in Butte Mining Practice.*—Mg. & Eng. World, July 26, 1913; p 143; 5300 w; 10c.

Rork, Frank C.—*A Gravity Haulage System.*—E. & M. J., Dec. 20, 1913; p 1169; 450 w*; 25c.

Rosenblatt, G. B.—*Automatic Mine Hoisting.*—M. & S. P., June 14, 1913; p 897; 1300 w*; 20c.

Speer, Dr.—*Der Sicherheitsfaktor der Förderseile.* [The factor of safety of hoisting rope].—Glückauf, Oct. 18, 1913; p 1727; 5000 w*; 50c.

Strohm, R. T.—*Mechanics of Coal Mining.*—Coll'y Engr., July, 1913; p 713; 1700 w*; 35c.

Trautschold, Reginald.—*Skip Hoists.*—Canadian Engr., Toronto, Nov. 20, 1913; p 736; 2100 w*; 35c.

Thompson, Jared.—*Hydro-Electric Power for British Columbia Mines.*—Mg. & Eng. World, July 5, 1913; p 3; 2000 w*; 10c.

Vail, Richard H.—*New Smelter of United Verde Copper Co.*—E. & M. J., Aug. 23, 1913; p 341; 5000 w*; 25c.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Warriner, R. C.—*Centralized Organization at the Crown Mines, South Africa.* (Paper read before S. Af. Inst. Engrs.).—S. Af. Engg., London, May 1913; (first installment); p 105; 7000 w*.

Weihe, C. R.—*Adjusting the Hoisting Engine;* [Valve setting].—Pr. Engr., June 15, 1913; p 587; 1700 w; 20c.

Wharton, H. E.—*A Home-Made Self-Loading and Dumping Water Skip.*—M. & S. P., Sept. 20, 1913; p 461; 250 w*; 20c.

Wintermeyer, Dipl.-Ing.—*Maschinelle Beschickungsvorrichtungen für Förderkörbe.* [Mechanical loading apparatus for hoisting cages].—Glückauf, Aug. 16, 1913; p 1287; 3000 w*; 50c.

Wintermeyer, Dipl.-Ing.—*Die verschiedenen Ausbildungen der Förderkorb-Anschlussbühnen.* [Various improvements of cage landing doors].—Bergbau, Aug. 31, 1913; p 561; 2200 w*; 35c.

Wintermeyer, Dipl.-Ing.—*Die wichtigsten Systeme elektrische betriebener Fördermaschinen.* [The most important systems of electrically driven hoisting machines].—Bergbau, Sept. 25, 1913; p 641; 2700 w*; 35c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin*

District, Missouri, a Preliminary Report— (See under Lead.)

A. M.—*Wire Ropes Applied to Mining.*—Sci. & Art. of Mg., July 19, 1913; p 577; 500 w*; 35c.

M. L. M. E.—*An Adequate Winding Engine Brake.*—Mg. Engg., London, July, 1913; p 130; 2300 w*; 35c.

———. *Anaconda Air-Compressor Plant at Butte, Mont.*—Mg. & Eng. World, June 28, 1913; p 1236; 325 w; 10c.

———. *Cage with Munzer Safety Catches.*—E. & M. J., July 19, 1913; p 112; 750 w*; 25c.

———. *Comparative Costs of Rand Hoisting System.* (Abstract from Jnl. S. Af. Inst. Engrs.).—E. & M. J., June 14, 1913; p 1199; 700 w; 25c.

——— *Counterbalancing Hoists.* [Description of an invention by Letson Balliet; patent to be applied for).—M. & S. P., Dec. 13, 1913; p 936; 1600 w; 20c.

———. *Coal Mines Operated Under Direction of U. S. Bureau of Mines.*—Mg. & Eng. World, June 21, 1913; p 1195; 2000 w; 10c.

———. *Derrick for Sinking 557 Feet.*—E. & M. J., July 19, 1913; p 117; 700 w*; 25c.

——— *Die Verhandlungen und Untersuchungen der Preussischen Seilfahrt-Kommission.* [The proceedings and investigations of the Prussian Rope-Transportation Commission, Parts 1 and 2, 1913.]—Zts. Berg. Hütten & Salinenw. (special numbers); Part 1, 258 pp; Part 2, 371 pp*; $3.

——— *Electric Winding Engines.*—Colly. Guard., London, Nov. 21, 1913; p 1047; 3800 w*; 35c.

———. *Four-Decked Cage at St. Michael, Pa.*—Colliery Engr., Aug., 1913; p 5; 2200 w*; 35c.

———. *Hoisting at a Chinese Mine.*—M. & S. P., July 26, 1913; p 137; 350 w*; 20c.

——— *Mine Signaling at the Butte Copper Mines.*—Mg. & Eng. World, Oct. 25, 1913; p 749; 1750 w; 10c.

———. *New Rescue Hoisting Cage.*—Mg. & Eng. World, Aug. 2, 1913; p 211; 200 w; 10c.

——— *Rand Mines Steam and Electric Winding.*—Austr. Mg. Stand., July 17, 1913; p 44; 1200 w; 35c.

——— *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

——— *Safety Alarm for Slack Hoisting Rope.*—E. & M. J., Dec. 13, 1913; p 1117; 300 w*; 25c.

———. *Safety Rules—Hoisting Engineers* (Inland Steel Co. Rules).—E. & M. J., July 19, 1913; p 115; 400 w; 25c.

——— *The Bennett Duplex Vertical Overwinding Controller.*—Colly. Guard., London, Aug. 29, 1913; p 421; 2000 w*; 35c.

——— *Untersuchungen von Bergwerksmaschinen.* [Investigations of mining machinery].—Glückauf, Aug. 23, 1913; p 1331; 2200 w*; 50c.

———. *Variation in Hoist Design.*—E. & M. J., July 5, 1913; p 2; 500 w; 25c.

——— *Welch Hoisting Engine Controller.*—Mg. & Eng. World, Dec. 20, 1913; p 1114; 700 w*; 10c.

——— *Winding Accidents on the Rand.*—E. & M. J., Dec. 13, 1913; p 1111; 550 w; 10c.

HYDRAULIC MINING; POWER SHOVELS

Dredges and Dredging

Bernewitz, M. W. von.—*Dredging at Natomas, California.*—M. & S. P., Dec. 27, 1913; 1000 w*; 20c.

Earl, T. C.—*Gold Dredging.* 208 pp. 20s (book).

Eddy, Lewis H.—*Natoma No. 7, a California All-Steel Dredge.*—E. & M. J., Oct. 11, 1913; p 873; 1000 w*; 25c.

Eddy, Lewis H.—*New Gold Dredges for Alaska.*—E. & M. J., June 21, 1913; p 1251; 1200 w*; 25c.

Eddy, Lewis H.—*Righting an Overturned Gold Dredge.*—E. & M. J., Oct. 25, 1913; p 773; 2500 w*; 25c.

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand; 142 pp*.

Gardner, W. H.—*Recent Placer Dredge Development in California.*—Steam Engg., Nov., 1913; p 335; 1200 w*; 20c.

Hurst, G. L.—*Resoiling after Dredging in California.*—M. & S. P., Nov. 8, 1913; p 719; 1100 w*; 20c.

Hutchins, John Power.—*Dredging by Hand in Siberia.*—M. & S. P., Nov. 22, 1913; p 813; 1250 w*; 20c.

Johnson, F. E.—*Gold Dredging at Ruby, Mont.*—S. L. Mg. Rev., Sept. 15, 1913; p 16; 1350 w*; 25c.

Leeson, C. G.—*The Camanche Dredge, California.*—M. & S. P., Dec. 13, 1913; p 933; 1000 w*; 20c.

Schonberg, A. C.—*Bucket Dredgers;* [Notes on recovery of tin].—Malayan Tin & R. Jnl., May 5, 1913; 1700 w; 35c.

Weatherbe, D'Arcy.—*Dredging Discrepancies.*—Mg. Mag., Nov., 1913; p 347; 6 pp*; 35c.

———. *Dredging Operations in Brazil.*—M. & S. P., June 28, 1913; p 980; 800 w*; 20c.

——— *Dredging at Snelling, California.*—M. & S. P., Dec. 27, 1913; p 1002; 1000 w*; 20c.

——— *Dredges to Be Used in Stripping Operations on the Mesabi.* [Editorial].—Mg. & Eng. World, Sept. 27, 1913; p 539; 600 w; 10c.

——— *New Canadian Dredges.* [In the Bonanza basin].—M. & S. P., Sept. 20, 1913; p 460; 1700 w; 20c.

——— *Resoiling After Dredging.*—M. & S. P., Sept. 27, 1913; p 494; 700 w; 20c.

Sluicing; Hydraulicking

De Hora, M. H.—*Gold Placers of Antioquia, Colombia, S. A.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 16, 1913; p 297; 1500 w*; 10c.

Edwards, W. W.—*Steel Sluiceway Linings.*—M. & S. P., Nov. 29, 1913; p 652; 1000 w; 20c.

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand; 142 pp*.

Hillmann, Walter.—*Ueber Golderzbereitung.* [The treatment of gold ores] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 689; 22,500 w*; 50c.

Lof, E. A.—*Commercial Opportunities for the Use of Water Power.*—Engg. Mag., July, 1913; p 506; 6 pp; 35c.

Perry, O. B.—*The Yukon Gold Co., Y. T.* (Abstract of annual report).—M. & S. P., June 28, 1913; p 981; 1700 w; 20c.

Stevens, Arthur W.—*Details of Flume Construction.*—E. & M. J., June 28, 1913; p 1289; 600 w*; 25c.

Storms, W. H.—*Sixty Years of Mining in California.*—Mg. & Eng. World, Aug. 2, 1913; p 213; 2200 w; Sept. 6, 1913; p 426; 4000 w; 20c.

Ward, William F.—*Nechi River Placer Mining, Colombia.*—E. & M. J., Aug. 16, 1913; p 297; 3000 w*; 25c.

——— *Empire Hydraulic Elevator.*—E. & M. J., Dec. 13, 1913; p 1123; 1000 w*; 25c.

———. *Ingenious Placer Operations Near Manhattan, Nevada.*—Mg. & Eng. World, Aug. 2, 1913; p 200; 700 w; 10c.

——— *La Clara Hydraulic Mine, Colombia.*—E. & M. J., Dec. 13, 1913; p 1114; 1000 w*; 25c.

———. *Wassertürme;* [Water towers].—Tonindustrie-Ztg., May 27, 1913; p 803; 300 w*; 35c.

Power Shovels and Excavators

Edwards, Geo. E.—*Season's Developments on the Lake Iron Ranges.*—Mg. & Eng. World, Nov. 8, 1913; p 825; 4000 w*; 10c.

Bolles, F. G.—*An Electric Drag-Line Installation in Clay Works.*—Br. & Clay Rec., July 15, 1913; p 171; 1800 w*; 25c.

King, Arthur F.—*Application of Steam Shovels to Clay Plants.*—Br. & Clay Rec., July 15, 1913; p 158; 700 w; 25c.

Perkins, Frank C.—*Electric Shoveling Machine for Underground Work.*—C. & C. Op., July 24, 1913; p 274; 1200 w*; 25c.

Pringle, L. B.—*"Missed Holes" in Open-Pit Mining on the Mesabi Range.*—Mg. & Eng. World, Sept. 27, 1913; p 548; 650 w; 10c.

Sanio, P.—*Die neueren Ausführungsformen der Entladevorrichtung an Löffelbaggern.* [Recent developments in the forms of unloaders for power shovels].—Fördertechnik, Nov., 1913; p 259; 2300 w*; 65c.

Scobee, Barry E.—*Strip Pit (Coal) Mining in Kansas.*—Coal Age, Oct. 25, 1913; p 607; 1300 w*; 30c.

Vail, Richard H.—*No. 2 Crushing Plant of Natomas Con. Co., California.*—E. & M. J., Sept. 13, 1913; p 481; 5000 w*; 25c.

——— *Mining Methods on the Mesabi Range.* (Trans. L. S. Mg. Inst.; abstract).—Ir. Tr. Rev., Sept. 11, 1913; p 450; 5000 w*; 25c.

———. *Mining Clay with Electricity.*—Excav. Engr., Aug., 1913; p 407; 2000 w*; 20c.

——— *Mining Methods on the Mesabi Range.* (Paper prepared for L. S. Mg. Inst. by Willard Bayliss, E. D. McNeill and J. S. Lutes].—Abstract in Mg. & Eng. World, Sept. 27, 1913; p 551; 5000 w*; 10c. E. & M. J., Sept. 27, 1913; p 578; 2700 w*; 25c.

——— *Steam-Shovel Work.* (Abstract from Handbook of Steam-Shovel Work issued by Bucyrus Co.).—E. & M. J., Dec. 27, 1913; p 1221; 1000 w*; 25c.

——— *Stripping Anthracite in Pennsylvania.*—Excavating Engr., Dec., 1913; p 83; 2800 w*; 20c.

MINING MISCELLANY

Akin, A. D.—*Motor-Truck Transportation in Mine Development.*—Mg. & Eng. World, Sept. 6, 1913; p 422; 1300 w; 10c.

Armstrong, L. K.—*The Orient Mining District, Washington.*—N. W. Mg. & Met., June, 1913; p 23; 8000 w*; 30c.

Balliet, Letson.—*Some Mistakes Made in Mine Management.*—Mg. & Eng. World, Dec. 6, 1913; p 1023; 2500 w; 10c.

Biesel, Charles.—*Properties of Mines Co. of America.* (Abstract from annual report).—M. & S. P., June 14, 1913; p 903; 7000 w*; 20c.

Blackburn, Ward.—*The Underground Blacksmith Shop.*—Comp. Air Mag., Aug., 1913; p 6911; 4 pp*; 20c.

Botsford, H. L.—*A Method of Mining Flatly Pitching Ore Deposits.*—Mex. Mg. Jnl., June, 1913; p 296; 2000 w*; 25c.

Brehm, Clyde G.—*The Use of Electricity in Mines.*—Coal Age, Dec. 6, 1913; p 850; 2300 w*; 20c.

Bridhe, John M.—*Steel Ore Passes at Broken Hill.*—M. & S. P., Nov. 15, 1913; p 773; 1850 w; 20c.

Bridge, John M.—*Notes on Steel Ore-Passes.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 181; 7 pp*; 75c.

Brunton, D. W.—*Mining Problems and the Mining Congress.* (Presidential address delivered before Am. Mg. Cong.).—M. & S. P., Nov. 22, 1913; p 815; 4200 w; 20c.

Caetani, Gelasio.—*The Human Side of Mining.*—M. & S. P., Nov. 22, 1913; p 800; 6000 w; 20c.

Coldham, J. C.—*Underhand Stoping with Square Sets as Practiced in the Broken Hill Proprietary Mine.* — Trans. Australasian Inst. M. E., No. 10; 1913; p 163; 13 pp*; 75c.

Cole, A. A.—*Mining Methods at Porcupine, Ont.* (Abstract of report to T. & N. O. Ry. Commission).—Can. Mg. Jnl., June 15, 1913; p 375; 1700 w; 35c.

Crocker, W. J.—*Efficiency as Applied to Mining.*—Mg. & Eng. World, June 21, 1913; p 1183; 1200 w; Aug. 16, 1913; p 299; 2500 w; 20c.

Crocker, William J.—*Standardizing Mine Supplies and Work.*—Mg. & Eng. World, Nov. 22, 1913; p 927; 1900 w; 10c.

Del Mar, Algernon.—*Scientific Management Applied to Gold Mining.*—Mg. & Eng. World, Nov. 1, 1913; p 795; 3250 w; 10c.

Dunn, Russell L.—*Mining Industry's Side of the Forest Service.*—Mg. & Eng. World, June 21, 1913; p 193; 1700 w; 10c.

Durham, Edward B.—*Mine Surveying.*—New York, McGraw-Hill Book Co.; 391 pp*; $3.50 (book).

Fairweather, Andrew.—*Open Stoping on Wide Lodes in Australia.* (Abstract from Proc. Australasian Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 27, 1913; p 1145; 2800 w; 10c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry on the cultural and industrial development of a country with special reference to the German Empire].—Berg & Hüttenmännische Rundschau, July 5, 1913; p 327; 7000 w*; 35c.

Forstmann, Bergassessor.—*Ueber Sauers-*

toff-Atmungsgeräte mit und ohne Injectoren. [On oxygen-breathing apparatus with and without injectors] (Address before Internat. Congress for Rescue and Accident Prevention).—Glückauf, Sept. 27, 1913; p 1600; 3000 w*; 50c.

Gall, W. C.—*Filling Distribution at the North Mine, Australia.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 176; 5 pp*; 75c.

Gerke, Arthur.—*Ueber Bohrer für den Bergbau.* [On bits for rock-drilling machines].—Zts. Oberschles. Berg & Hüttenm. Vereines, Oct., 1913; p 396; 12,000 w*; 50c.

Grahn, Bergassessor.—*Neuerungen auf dem Gebiet der Sauerstoff-Atmungsgeräte und damit angestellte Versuche.* [Innovations in the field of oxygen-breathing apparatus and experiments made therewith].—Glückauf, Sept. 27, 1913; p 1605; 2500 w*; 50c.

Guess, H. A.—*Mining and Mining Methods in the Southeast Missouri Disseminated-Lead District.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2749; 20 pp*; 35c.

Gwyn-Williams, R. H.—*Mining in Katanga, Congo Belge.*—Mg. Jnl., London, Aug. 23, 1913; 3000 w; 35c.

Hall, Albert E.—*Stoping Drills at Sudbury, Ontario.*—Sch. of Mines Quarterly, July, 1913; p 383; pp 2; 65c.

Hall, Clarence, and Howell, Spencer P.—*The Selection of Explosives Used in Engineering and Mining Operations.*—Bull. 48, U. S. Bureau of Mines; 50 pp*.

Henahen, J. R.—*Present Conservation Policy Retards Development.*—Mg. & Eng. World, July 5, 1913; p 6; 900 w; 10c.

Heym, W. — *Mechanische Wiederbelebungs-Apparate.* [Mechanical resuscitation apparatus].—Kali, Erz & Kohle, Nov. 15, 1913; p 1143; 1000 w*; 35c.

Higgins, Will C.—*Mining Operations in the Alta District, Utah.*—S. L. Mg. Rev., July 30, 1913; p 9; 8750 w*; 25c.

Higgins, Will C.—*The Bingham Mines of the U. S. Mining Co., Utah.*—S. L. Mg. Rev., Nov. 15, 1913; p 11; 2500 w*; 25c.

Holmes, J. A.—*Lessons of the Year in Our Mining Industry.* (Address delivered before Am. Mg. Cong.).—M. & S. P., Nov. 1, 1913; p 680; 2000 w*; 20c.

Hore, Reginald E.—*Methods of Mining at Cobalt, Ontario.*—Canadian Mg. Jnl., Aug. 1, 1913; p 476; 1500 w*; 35c.

Howard, L. O.—*The Silver King Coalition Mines, Utah.*—S. L. Mg. Rev., Nov. 30, 1913; p 11; 5000 w*; 25c.

Howard, L. O.—*The American Flag Mine, Utah.*—S. L. Mg. Rev., Dec. 15, 1913; p 11; 4000 w*; 25c.

Hughes, Ben.—*Draining Kerr Lake, Ontario; A Novel Departure in Metal Mining.*—Mg. & Eng. World, Aug. 16, 1913; p 290; 750 w*; 10c.

Hunter, G. M'I.—*Analysis of Mining Statements.*—Trans. Australasion Inst. M. E., No. 10; 1913; p 189; 5 pp*; 75c.

Jacobs, E.—*The Mining Situation in British Columbia.*—B. C. Mg. Exch., June, 1913; p 5; 1500 w*; 35c.

Janin, Charles.—*Mining Engineers' Examination and Report Book.* 94 pp. $2.50 (book).

Kellogg, L. O.—*Stoping Methods at the North Star Mine.*—E. & M. J., Nov. 29, 1913; p 1011; 3000 w*; 25c.

Kemp, J. F.—*The Influence of Depth on the Character of Metalliferous Deposits.* (Paper read at Toronto Session Int. Geol. Congress).—Canadian Mg. Jnl., Sept. 1, 1913; p 543; 4000 w; 35c.

Kennedy, Scott.—*Underground Leveling.*—Mg. Engg., London, June, 1913; p 109; 2000 w*; 35c.

Klopstock, Paul.—*The Kennedy Mining District, Nevada.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 12, 1913; p 63; 3000 w; 10c.

Kreuzkam, Dr.—*Der Bergbau in Brasilien;* [Mining in Brazil].—Kali, Erz & Kohle, June 15, 1913; p 593; 850 w; 35c.

Lakes, Arthur, Sr.—*Sketches of Scenes Characteristic of a British Columbia Camp.*—Mg. Scl., Sept., 1913; p 158; 1000 w*; 35c.

Lejeune, Arthur S.—*Mine Sampling and Ore Valuation on the Rand.* (Sixth article).—S. Af. Mg. Jnl., June 7, 1913; p 380; 1000 w; 35c.

Letcher, Owen.—*The Van Ryn Deep Mine, South Africa.*—Mg. & Eng. World, June 21, 1913; p 1189; 1900 w*; 10c.

Maclachlan, M. W.—*A System of Keeping Mine and Mill Accounts, Costs and Metallurgical Records.*—Jnl. Chem., Met. & Mg. Soc. of S. Af., Sept., 1913; p 138; 12 pp*; 75c.

Maguire, Don, and Howard, L. O.—*The Romance of a Famous Gold Mine.* (The Mercur Mine, Utah).—S. L. Mg. Rev., June 30, 1913; p 13; 4500 w*; 25c.

Martin, A. H.—*Old California Producing Mines Reopened.* [Plymouth and Champion].—Mg. & Eng. World, July 5, 1913; p 9; 2000 w; 10c.

Martin, H. E., and Kaiser, W. J.—*The Use of Machines in Underground Mining.* (Paper read before L. S. Mg. Inst.).—Iron Trade Rev., Sept. 25, 1913; p 537; 1500 w*; 25c.

McCullough, Ervin W.—*Metal Mining.* [Paper read before Civil Engrs. Soc., St. Paul).—Jnl. Assn. Engg. Soc., Sept., 1913; p 130; 7 pp*; 40c.

McDonald, P. B.—*Stoping Methods in Michigan Mines.*—M. & S. P., July 5, 1913; p 9; 3800 w*; 20c.

Megraw, Herbert A.—*The Mines of Mexico.*—Engg. Mag., Oct., 1913; p 37; 8 pp*; 35c.

Milton, Maxwell C.—*The Oro Blanco District of Arizona.*—E. & M. J., Nov. 29, 1913; p 1005; 1100 w*; 25c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.*—Mg. & Eng. World, July 5, 1913; p 16; 2500 w*; July 12, 1913; p 69; 2800 w*; Oct. 25, 1913; p 745; 2200 w*; 30c.

Purcell, M. E.—*Surface Ore-Handling Arrangement at Rossland, B. C.* (Abstract of paper read before Spokane Sec. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, June 28, 1913; p 1230; 10c.

Rosenblatt, G. B.—*Automatic Mine Hoisting.*—M. & S. P., June 14, 1913; p 897; 1300 w*; 20c.

Ryba, Gustav.—*Das Rettungswesen im Bergbaue;* [Rescue methods in mining] (Last part).—Zts. Zentral-Verbd. Bergbau-Betriebsl., June 1, 1913; p 326; 2100 w*; 35c.

Seddon, William.—*The Lighting of Mines.*—C. & C. Opr., Oct. 16, 1913; p 535; 2500 w; 20c.

Sheldon, G. L.—*"High Grading."*—E. & M. J., Nov. 15, 1913; p 932; 1600 w; 25c.

Sheldon, G. L.—*Salted Mines.*—E. & M. J., Dec. 13, 1913; p 1113; 1400 w; 25c.

Simmons, Jesse.—*The Homestake and Wasp, Two Low-Grade Gold Mines.*—Mg. Mag., July, 1913; p 47; 1500 w*; 35c.

Stone, S. R.—*Plant of the Brakpan Mines, South Africa.*—Mg. & Eng. World, Dec. 20, 1913; p 1116; 250 w; 10c.

Storms, Wm. H.—*Observations from an Engineer's Note Book.* (Sixth article).—Mg. & Eng. World, June 14, 1913; p 1140; 2700 w; June 28, 1913; p 1237; 3000 w; 20c.

Storms, W. H.—*Sixty Years of Mining in California.*—Mg. & Eng. World, Sept. 6, 1913; p 426; 4000 w; 10c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 29, 1913; p 963; 2500 w*; 10c.

Tait, Peter G.—*The Mines of Tasmania.* [Second article descriptive of the Farrell, Zeehan and Williamsford and other mines].—Mg. & Engg. Rev., Melbourne, May 5, 1913; p 315; 10,000 w*; 35c.

Tait, Peter G.—*The Northeastern Tin Fields of Tasmania.*—Mg. & Engg. Rev., July 5, 1913; p 397; 3000 w*; 35c.

Thompson, Jared.—*Hydro-Electric Power for British Columbia Mines.*—Mg. & Eng. World, July 5, 1913; p 3; 2000 w*; 10c.

Toll, Rensselaer H.—*La Plata Mountains, Colorado.*—M. & S. P., Nov. 29, 1913; p 849; 2200 w*; 20c.

Troye, G. A.—*The Future of the Rand.*—Mg. Mag., July, 1913; p 50; 3500 w*; 35c.

Umpleby, J. B.—*Important Mining Districts in Lemhi County, Idaho.* (Abstract from Bull. 528, U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 1, 1913; p 794; 750 w; 10c.

Weston, E. M.—*Factors Affecting Choice of Mining Method.*—E. & M. J., Sept. 20, 1913; p 533; 3000 w; 25c.

Wilski, P.—*Ueber einige neuere Schachtlotverfahren.* [On some recent methods of shaft plumbing] (Address before Eighty-fifth Meeting of German Naturalists and Physicians in Vienna).—Montanistische Rundschau, Oct. 16, 1913; p 988; 1800 w*; 35c.

Wolf, Harry J.—*Health as a Factor in an Engineer's Efficiency.*—Colo. Sch. of M'nes Mag., July, 1913; p 155; 3 pp*; 35c.

Wolf, J. H. G.—*The Mother Lode of California.*—M. & S. P., June 21, 1913; p 934; 4000 w*; 20c.

Wood, W. M.—*Mining and Milling at the Vulture Property, Arizona.*—M. & S. P., Dec. 27 1913; p 1018; 950 w; 20c.

Woodburn, J. Allan.—*Mining Copper Ores at Messina.*—Jnl. Chem. Met. & Mg. Soc. S. Af., Aug., 1913; p 53; 12 pp*; 65c.

Woodruff, E. G.—*Topographic Maps for the Mining Engineer.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 22, 1913; p 929; 3500 w*; 10c.

Yeandle, William H.—*Patience and Cheap Labor in Mexican Mining.*—E. & M. J., Dec. 13, 1913; p 1127; 2000 w; 25c.

——— *Address of President Brunton of the American Mining Congress.*—Mg. & Eng. World, Nov. 15, 1913; p 887; 3500 w; 10c.

——— *Alaska Coast Development; Ketchikan.*—Alaska & N. W. Mg. Jnl., Nov., 1913; p 81; 4200 w*; 30c.

——— *Availability of Motor Trucks for Mines.*—E. & M. J., Oct. 18, 1913; p 731; 4200 w; 25c.

———. *A Few Suggestions for the Master Mechanic.*—Mg. & Eng. World, June 21, 1913; p 1198; 700 w; 10c.

———. *Automatic Telephone System for Mines.* [Editorial].—Mg. & Eng. World, Aug. 16, 1913; p 285; 600 w; 10c.

———. *Colombian Mines and the Panama Canal.*—Mg. Jnl., London, June 21, 1913; p 593; 1300 w; 35c.

——— *Costs at the Great Fingall Mine, Western Australia.*—M. & S. P., Nov. 8, 1913; p 732; 350 w; 20c.

———. *Der Asphaltsee auf der Insel Trinidad und die Verwertung des Trinidad-Asphaltes;* [The asphalt lake on the island of Trinidad and the exploitation of Trinidad asphalt].—Bitumen, June 16, 1913; p 17a; 800 w; 45c.

——— *Der deutsche Erzbergbau und seine Zukunft.* [German mining and its future].—Bergwerks-Ztg., July 23, 1913; p 1; 1500 w; 35c.

———. *Development of the Rochester Mining District, Nevada.*—Mg. & Eng. World, June 28, 1913; p 1239; 800 w; 10c. M. & S. P., June 28, 1913; p 994; 1000 w; 20c.

——— *Developments in the Black Hills, South Dakota.*—E. & M. J., Sept. 13, 1913; 1200 w; 25c.

——— *Die Bergarbeiterlöhne in Deutschland im 1. Vierteljahre* 1913. [Mine-workers' wages in Germany in the first quarter of 1913].—Glückauf, July 26, 1913; p 1185; 3500 w; 50c.

———. *Iron Mining in Minnesota.* (Abstract from Bull. 1, Minn. Sch. Mines Exp. Sta.).—E. & M. J., June 28, 1913; p 1295; 1650 w; 25c.

———. *Legislatures and the Mining Industry.*—Mg. & Eng. World, June 28, 1913; p 221; 500 w; 10c.

———. *Mining and the Canadian Northern Railroad.*—Can. Mg. Jnl., June 1, 1913; p 330; 3500 w*; 35c.

———. *Mining at the Panama-Pacific International Exposition.*—Mg. & Eng. World, Aug. 9, 1913; p 260; 750 w; 10c.

———. *Mining Methods at Broken Hill.* (Abstract from Aust. Mg. Stand.).—M. & S P., July 26, 1913; p 152; 1100 w; 20c.

———. *Mining Methods on the Mesabi Range.* [Paper prepared for L. S. Mg. Inst. by Willard Bayliss, E. D. McNeill and J. S. Lutes].—Abstract in Mg. & Eng. World, Sept. 27, 1913; p 551; 5000 w*; 10c. E. & M. J., Sept. 27, 1913; p 578; 2700 w*; 25c.

———. *Mining on the Suan Concession.* (Abstract from engineer's report).—M. & S. P., Aug. 16, 1913; p 256; 4000 w*; 20c.

———. *Mining Ore by the Million Tons;* [Tonnages of gold, silver, copper and lead ore mined by certain large concerns in United States].—M. & S. P., June 14, 1913; 500 w; 20c.

———. *New Developments at Jerome, Arizona.*—E. & M. J., July 26, 1913; p 145; 1600 w*; 25c.

——— *Preventing the Stealing of Rich Ore.* (Editorial).—Mg. & Eng. World, Sept. 13, 1913; p 455; 600 w; 10c.

——— *Rand Mining Policies.*—E. & M. J., Aug. 30, 1913; p 399; 1500 w; 25c.

——— *Sprengstoffe für Grubenarbeiten.* [Explosives for mining work].—Kali, Erz & Kohle, Sept. 25, 1913; p 955; 1000 w; 35c.

———. *The Quartette Mine and Mill, Nevada.*—S. L. Mg. Rev., June 30, 1913; p 18; 1200 w*; 25c.

——— *Work at the Alaska Gastineau.* (Abstract from Hayden-Stone circular).—E. & M. J., Oct. 18, 1913; p 748; 1100 w*; 25c.

MINES AND MINING (b*).

CHAPTER XIV

TRANSPORTATION, CONVEYING, ETC.

Transportation (Rail)

Alcott, W. *J.—Safety Regulations in Underground Mining.* Abstract from printed rules of Oliver Iron Mg. Co.).—Mg. & Eng. World, Dec. 6, 1913; p 1014; 3600 w; 10c.

Anderson, Arvid R.—*The Storage Battery Locomotive in Coal Mines.*—Colly. Engr., Oct., 1913; p 146; 5000 w*; 35c.

Barneveld, Charles E. van.—*Iron Mining in Minnesota.*—Bull. 1, Minn. School of Mines Exp. Station; 215 pp*.

Biedermann, Ernst.—*Schmalspurige Förderbahnen bei Bauausführungen;* [Narrowgage railroads in building operations].—Fördertechnik, June, 1913; p 122; 3400 w*; July, 1913; p 153; 2400 w*; $1.30.

Bines, W. H.—*Efficiency of Haulage in Coal Mines.*—Colly. Engr., Oct., 1913; p 171; 1400 w*; 35c.

Brandt, Wm. Van C.—*Storage Batteries for Mine Locomotives.*—Coal Age, Dec. 6, 1913; p 848; 1200 w; 20c.

Brix, Oskar.—*Kontrolleinrichtungen und selbsttätige Wagen für Förderanlagen.* [Control devices and self-operating cars for transportation systems]. — Fördertechnik, Oct., 1913; p 231; 2000 w*; 65c.

Butcher, E. W. R.—*Track Work in a Minnesota Mine.*—E. & M. J., Aug. 23, 1913; 300 w*; 25c.

Butow and Dobblestein. — *Compressed-Air Pit Locomotives.* (Gives results of tests with compressed-air locomotives for colliery haulage). (Abstracted from Glückauf).—Ir. & C. Tr. Rev., May 30, 1913; p 888; 2000 w; 35c.

Crocker, William J.—*Standardizing Mine Supplies and Work.*—Mg. & Eng. World, Nov. 22, 1913; p 927; 1900 w; 10c.

Dean, Samuel.—*Coal Mining in the United States, with Special Reference to the Treatment of Coal Dust and Haulage by Electric Locomotives.* (Abstract of paper read before N. of England Inst. of Mg. & Mech. Engrs.).—Ir. & C. Tr. Rev., London, Aug. 8, 1913; p 196; 2800 w; 35c.

Elliott, R. W.—*A Recent Utah Coal Mine Development.*—Coal Age, July 26, 1913; p 112; 4000 w*; 20c.

Evans, A. W.—*Mining Plant of the Petros Coal Co., Tennessee.*—Colly. Engr., Oct., 1913; p 151; 1600 w*; 35c.

Evans, J. Clark.—*The Use of Steel Ties in Mining* (Paper read before W. Va. Coal Mg. Inst.).—Coal Age, July 5, 1913; p 8; 2000 w*; 20c.

Fisken, J. B.—*Electrical Applications in the Coeur d'Alenes* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 26, 1913; p 149; 3000 w*; 10c.

Hall, J. J., and Booth, F. L.—*Ashington and Ellington Collieries, Great Britain.*—Iron & Coal Trade Rev., London, Nov. 21, 1913; p 795; 9500 w*; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Higgins, Will C.—*The Bingham Mines of the U. S. Mining Co., Utah.*—S. L. Mg. Rev., Nov. 15, 1913; p 11; 2500 w*; 25c.

Higgins, Will C.—*The Spring Canyon Coal Co., Utah.*—S. L. Mg. Rev., June 30, 1913; p 9; 3500 w*; 25c.

Hockensmith, W. D.—*Mine-Car Construction.*—Colly. Engr., Oct., 1913; p 175; 700 w; 35c.

Hodges, R. O.—*History of the Gasoline Mine Motor.*—Coal Age, July 19, 1913; p 81; 3500 w*; July 26; p 118; 2400 w; Aug. 2; p 156; 2000 w; 60c.

Hough, Ulysses B.—*The Coeur d'Alene Mine Car.*—M. & S. P., Nov. 22, 1913; p 805; 125 w*; 20c.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian Mg. Jnl., Oct. 15, 1913; p 643; 3000 w*; 35c.

Howard, L. O.—*The Silver King Coalition Mines, Utah.*—S. L. Mg. Rev., Nov. 30, 1913; p 11; 5000 w*; 25c.

Jacobs, E.—*Improvements in Smelting at the Consolidated Company's Works, Trail, B. C.*—Met. & Chem. Engg., Oct., 1913; p 562; 1800 w; 35c.

Jones, J. E.—*Two Safety Devices.* [Describes an automatic mine switch and an automatic car coupler].—Coal Age, July 26, 1913; 1500 w*; 20c.

Jones, L. M.—*Prevention of Haulage-Way Accidents.* (Paper read before Alabama Coal Oprs. Assn.; abstract).—C. & C. Opr., Aug. 28, 1913; p 383; 4000 w; 25c. Coal Tr. Bull., Sept. 1, 1913; p 41; 3500 w; 25c.

Jones, W. R.—*The Electrical Equipment of a Modern Coal Mine.*—Coal Age, Dec. 6, 1913; p 843; 1500 w½; 20c.

Kellogg, L. O. — *A Methuselah among American Mines.*—E. & M. J., Sept. 6, 1913; p 431; 1000 w*; 25c.

Kellogg, L. O.—*Cheap and Satisfactory Turntable.*—E. & M. J., Ang. 9, 1913; p 261; 450 w*; 25c.

Kellogg, L. O.—*Rear-Dumping Skip Car.*—E. & M. J., Nov. 8, 1913; p 877; 300 w*; 25c.

Kellogg, L. O.—*The Magnetite Mines Near Port Henry, N. Y.*—E. & M. J., Nov. 8, 1913; p 863; 4000 w*; 25c.

Kennedy, Geo. M.—*The Electric Mining*

*(b) Includes Transportation, Storage and Handling, Accidents, Sanitation, Safety, Rescue and First Aid, Labor, Management, Sociological, Mining Costs, Accounts, Bookkeeping, Production.

Locomotive.—Coal Age, Oct. 18, 1913; p 577; 3700 w; 20c.

King, A. J.—*Gasoline Motors in Coal Mines.*—Colly. Engr., Oct., 1913; p 164; 1600 w*; 35c.

King, A. F.—*Use of Gasoline Motors in Coal Mines.* (Paper read before W. Va. Coal Mg. Inst.; abstract).—M. & S. P., Sept. 20, 1913; p 463; 1500 w; 20c.

Leroux, E. P.—*Les Locomotives avec Moteur a Benzine a Cylindres Multiples.* [Locomotives with multiple-cylinder benzine motor].—Revue Noire, May 11, 1913; p 260; 700 w*; May 25, 1913; p 287; 400 w*; June 1; p 304; 1500 w*; $1.05.

Lof, Eric A.—*Electric Mine Haulage.*—Colly. Engr., Dec., 1913; p 301; 4000 w*; 35c.

Newton, Leonard V.—*Field Test of the Electric Locomotive.*—Colly. Engr., Oct., 1913; p 157; 1200 w*; 35c.

Patchell, W. H.—*Application of Electric Power to Mines and Heavy Industries.*—New York, D. Van Noshtrand Co.; 333 pp*; $4 (book).

Price, William Z.—*Compressed-Air Mine Haulage.*—Colly. Engr., Oct., 1913; p 142; 3000 w*; 35c.

Price, William Z. — *Short Mountain Breaker, Pennsylvania.*—Colly. Engr., Dec., 1913; p 267; 2700 w*; 35c.

Purcell, M. E.—*Surface Ore-Handling Arrangement at Rossland, B. C.* (Abstract of paper read before Spokane Soc. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, June 28, 1913; p 1230; 10c.

Recktenwald, J.—*Unterirdische Förderung b e i m Steinkohlenbergbau.* [Underground haulage in coal mining].—Fördertechnik, Aug., 1913; p 183; 1800 w; 65c. (First part).

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 16, 1913; p 287; 3000 w*; Aug. 23, 1913; p 327; 4000 w*; 10c.

Scholz, Carl.—*Gasoline Mine Locomotives in Coal Mining.*—Colly. Engr., Oct., 1913; p 153; 1800 w*; 35c.

Schroeder, J. A.—*Hyatt Roller Bearings Applied to Mine Cars.*—Colly. Engr., Oct., 1913; p 173; 650 w*; 35c.

Schulze-Höing, Bergassessor.—*Die Akkumulatoren Grubenlokomotiven.* [Accumulator mine locomotives]. — Technische Blätter, Aug. 31, 1913; p 290; 1600 w*; 35c.

Seeber, R. B.—*Winona Stamp Mill, Mich.* (Paper read before L. S. Mg. Inst.).—Met. & Chem. Engr., Oct., 1913; p 549; 4500 w*; 35c.

Strantz, Major von.—*Die neue Nord-Südbahn in Deutsch-Südwestafrika.* [The new North-South railroad in German Southwest Africa]. — Südwestdeutsche Industriezig., May 17, 1913; p 293; 1000 w*; 35c.

Storms, William H.—*Observations from an Engineer's Note Book.* (Seventh article).—Mg. & Eng. World, June 28, 1913; p 1237; 3000 w; 10c.

Storms, W. H.—*The Trinity-Balaklala-Vulcan Mines, Shasta County, California.*—M. & S. P., Sept. 13, 1913; p 408; 5000 w*; 20c.

Taft, Wm. H.—*Railway Routes in Alaska. Message from the President of the United States Transmitting Maps and Profiles to Accompany the Report of the Alaska Railroad Commission.*—Doc. No. 1346, Part 2, House of Representatives, 62nd Congress, 3d Session; 19 maps.

Thompson, Jared.—*Hydro-Electric Power for British Columbia Mines.*—Mg. & Eng. World, July 5, 1913; p 3; 2000 w*; 10c.

Trautschold, Reginald.—*Handling Materials by Bucket Carriers.*—Canadian Engr., Nov. 6, 1913; p 665; 5000 w*; 35c.

Tyssowski, John.—*Internal Combustion Mine Locomotives.*—E. & M. J., Aug. 23, 1913; 3500 w*; 25c.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Wade, R. E.—*The Electrification of the Butte, Anaconda & Pacific Railway.*—Trans. Am. Inst. Mg. Engrs., Bull. 83, Nov., 1913; p 2629; 6 pp*; 35c.

Warriner, R. C.—*Centralized Organization at the Crown Mines, South Africa.* (Paper read before S. Af. Inst. Engrs.).—S. Af. Engg., London, May, 1913; p 105; 7000 w*; 35c.

Warriner, R. C.—*Equipment at the Crown Mines on the Rand.* (Abstract of paper read before S. Af. Assn. Engrs.).—M. & S. P., July 5, 1913; p 13; 1600 w; 20c.

Wepfer, G. W.—*Railroads and Transportation Problems in Bolivia.*—M. & S. P., July 19, 1913; p 100; 1800 w*; 20c.

——— *A New Type of Haulage Engine.*—Iron & Coal Tr. Rev., Oct. 31, 1913; p 683; 1200 w*; 35c.

———. *A Notable Scottish Colliery.* (Newbattle Abbey).—Coll'y Engr., July, 1913; p 671; 3800 w*; 35c.

———. *Cars for Underground Electric Haulage.*—E. & M. J., July 26, 1913; p 161; 400 w*; 25c.

——— *Consumption of Fuel Oil by Railroads.*—Mg. & Eng. World, Oct. 25, 1913; p 733; 300 w; 10c.

———. *Electrically-Operated Ore-Hauling Railroad at Butte.*—Mg. & Eng. World, June 14, 1913; p 1137; 2500 w*; 10c.

———. *Gasoline Locomotives for Mine Use.*—E. & M. J., July 19, 1913; p 113; 800 w; 25c.

———. *New Type of Mine Trolley;* [Westinghouse product].—E. & M. J., June 14, 1913; 400 w*; 25c.

———. *Safety Rules—Electrical Haulage Underground.* (From Inland Steel Co.'s Book of Rules).—E. & M. J., Aug. 16, 1913; 650 w; 25c.

———. *Verschiedene Arten von Wagenkippern.* [Different types of car dumps].—Bergbau, July 10, 1913; p 453; 800 w*; 35c.

———. *Verrichtung zur schnellen Entladung von Eisenbahnwagen;* [Apparatus for the rapid unloading of railroad cars].—Bergbau, June 19, 1913; p 403; 1900 w*; 35c.

Motor Trucks

Akin, A. D.—*Motor-Truck Transportation in Mine Development.*—Mg. & Eng. World, Sept. 6, 1913; p 422; 1300 w; 10c.

Edholm, C. L.—*Motor-Truck Ore Haulage in Arizona;* [At Calumet & Copper Creek property].—E. & M. J., June 14, 1913; p 1177; 1500 w*; 25c.

Hutchinson, Rollin W., Jr.—*Motor Trucks in Metal-Mining Industries.*—Engg. Mag., Dec., 1913; p 365; 15 pp*; 35c.

Younger, John.—*Motor Trucks for Mines.*—E. & M. J., Nov. 29, 1913; p 1084; 500 w; 25c.

——— *Availability of Motor Trucks for Mines.*—E. & M. J., Oct. 18, 1913; p 731; 4300 w; 25c.

——— *Northern Record for Motor Travel.*—Mg. & Eng. World, Oct. 4, 1913; p 603; 2000 w; 10c.

———. *The Auto-Truck as a Means of Transportation in the Desert.*—L. A. Mg. Rev., June 28, 1913; p 5; 2000 w; 20c.

Tramways, Cables, Etc.

Abels, Bergassessor. — *Seilförderanlagen im Minettebezirk.* [Rope haulage in the oölitic iron ore district, Germany].—Glückauf, Nov. 1, 1913; p 1804; 5000 w*; 50c.

Beaver, J. C.—*Factors of Safety in Vulcanized Bitumen Mine Cables.*—Iron & Coal Tr. Rev., July 18, 1913; p 91; 1200 w*; 35c.

Benoit, G.—*Beitrag zur Beuhrteilung der Sicherheit von Drahtseilen.* -[Contribution on the determination of the safety of wire ropes].—Glückauf, Aug. 23, 1913; p 1328; 2000 w; 50c.

Bratley, A. S.—*Winding Appliances, Winding Ropes and Capels; Past and Present.*—Iron & Coal Tr. Rev., London, Oct. 24, 1913; p 648; 8500 w*; 35c.

Briggs, Alfred.—*Wire Rope Haulage in Coal Mines.*—Colly. Engr., Oct., 1913; p 173; 350 w; 35c.

Gradenwitz, A.—*A Chinese Coal Cableway.*—Coal Age, Nov. 8, 1913; p 688; 1150 w*; 25c.

Herbst, Fr.—*Die Berechnung des Sicherheitsfactors der Schachtförderseile mit gesonderter Berücksichtigung des Gewichts der Förderlast und des Seilgewichtes.* [The calculation of the factor of safety of shaft hoisting rope, taking into consideration the weight of the load being hoisted and of the weight of the rope].—Glückauf, Nov. 22, 1913; p 1936; 3200 w*; 50c.

Morris, F. G.—*Slope Haulage at Sayreton, Alabama.*—Colly. Engr., Oct., 1913; p 155; 1800 w*; 35c.

Pitkin, S. H.—*Rope-Haulage Systems.*—Colly. Engr., Oct., 1913; p 174; 600 w*; 35c.

Price, William Z.—*Rope Haulage at Vesta No. 4 Mine, Pennsylvania.*—Colly. Engr., Oct., 1913; p 135; 3600 w*; 35c.

Rice, Claude T.—*Helping Out Bucket Elevators.*—E. & M. J., July 26, 1913; p 165; 300 w*; 25c.

Rork, Frank C.—*A Gravity Haulage System.*—E. & M. J., Dec. 20, 1913; p 1169; 450 w*; 25c.

Ryba, Gustav.—*Ueber Schutzvorrichtungen bei der Bremsbergförderung.* [On safety devices in inclined-plane haulage].—Montanist. Rundschau, No. 17, 1913; p 827; 1700 w; 35c.

Schultz, W.—*Elektrohängebahnen;* [Electric suspended tramways].— Technische Blätter, June 21, 1913; p 193; 2200 w*; June 28, 1913; p 201; 1800 w*; July 5; p 209; 1600 w*; July 12; p 217; 2000 w*; $1.05.

Speer, Dr.—*Der Sicherheitsfaktor der Förderseile.* [The factor of safety of hoisting rope].—Gluckauf, Oct. 18, 1913; p 1727; 5000 w*; 50c.

Tod, Grant H.—*Preparatory Work of the Alaska Gold Mines Company.*—M. & S. P., Aug. 2, 1913; p 184; 900 w*; 20c.

Trautschold, Reginald.—*Handling Materials by Bucket Carriers.*—Canadian Engr., Nov. 6, 1913; p 665; 5000 w*; 35c.

Trautschold, Reginald.—*Skip Hoists.*—Canadian Engr., Toronto, Nov. 20, 1913; p 736; 2100 w*; 35c.

Wallace, R. B.—*Lubricating Device for Hoisting Rope.*—E. & M. J., June 21, 1913; p 1246; 150 w*; 25c.

Welbourn, B.—*Copper and Aluminum Cables for Mining Work.* (Paper read before Inst. of Mg. Engrs.; abstract).—Electrician, London, June 20, 1913; p 439; 4500 w; 35c.

Wilson, Alex.—*Three-Two Method of Rope Splicing.*—Coll'y Engr., July, 1913; p 684; 1200 w*; 35c.

Wintermeyer, Dipl.-Ing.—*Die verschiedenen Ausbildungen der Förferkorb-Anschlussbühnen.* [Various improvements of cage landing doors].—Bergbau, Aug. 31, 1913; p 561; 2200 w*; 35c.

———. *An Italian Aerial Tramway.*—Coal Age, June 28, 1913; p 998; 1500 w*; 20c.

———. *Beschreibungen von zwei Bremsschacht- und Bremsbergverschlüssen.* [Description of two safety stops for inclined planes and self-acting inclined planes].—Bergbau, July 3, 1913; p 433; 1000 w*; 35c.

——— *Die Verhandlungen und Untersuchungen der Preussischen Seilfahrt-Kommission.* [The proceedings and investigations of the Prussian Rope-Transportation Commission. Parts 1 and 2, 1913].—Zts. Berg, Hütten & Salinenw (special numbers), Part 1; 258 pp; Part 2; 371 pp*; $3.

——— *El Tranvía Aéreo de Gran Capacidad del Puerto de Savona.* [The aerial tramway of large capacity at Savona, Spain].—Revista Minera, Aug. 24, 1913; p 409; 700 w*; 35c.

——— *Reinforced Concrete Supports for Wire Ropeways.*—Engg. & Contr., Dec. 3, 1913; p 621; 600 w*; 25c.

———. *Trainage Mécanique a Cable, Système Heckel; Installé à la Mine de Minerai de Fer d'Auboué-Moinville.* [The Heckel system of rope haulage installed at the Auboué-Moineville iron-ore mine, France].—L'Echo des Mines, May 26, 1913; p 602; 1700 w*; 35c.

———. *Verschiedene Selbstgreiferarten;* [Different kinds of automatic grabs].—Bergbau, June 5, 1913; p 373; 700 w*; 35c.

Conveyors, Etc.

Bradley, F. W.—*Flume of the Alaska Juneau Gold Mining Co.*—M. & S. P., Dec. 6, 1913; p 880; 3500 w*; 20c.

Bridge, John M.—*Notes on Steel Ore-Passes.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 181; 7 pp*; 75c.

Bridge, John M.—*Steel Ore Passes at Broken Hill.*—M. & S. P., Nov. 15, 1913; p 773; 1850 w; 20c.

Gates, Arthur O.—*Wet Bucket Elevator Design.*—E. & M. J., Oct. 18, 1913; p 725; 3500 w*; 25c.

Mavor Sam.—*Underground Conveying.* (Trans. So. Wales Inst. Engrs.; abstract).—Coll'y Guard., May 30, 1913; 5000 w*; June 6, 1913; p 1221; 3000 w*; 70c.

Pommer, Bergassessor.—*Die mechanische Abbauförderung beim Steinkohlenbergbau im Oberbergamtsbezirk Dortmund.* [The mechanical mine conveying in coal mining in the Dortmund mining district].—Zts. Berg, Hütten & Salinew., Vol. 61, Part 2, 1913; p 254; 8000 w*; $1.50.

Richter, G.—*Betriebsergebnisse einiger Schüttelrutschehanlagen auf oberschlesischen Steinkohlenbergwerken.* [Operating results of some shaking-conveyor installations at Upper Silesian coal mines].—Glückauf, Oct. 18, 1913; p 1717; 3600 w*; 50c.

Shearer, D. R.—*Electric Control for Conveyor Belts.*—Power, June 17, 1913; p 857; 800 w*; 20c.

Trautschold, Reginald.—*Belt Conveyors.*—Canadian Engr., Oct. 2, 1913; p 526; 3800 w; Oct. 16, 1913; p 585; 5000 w*; 70c.

Trautschold, Reginald.—*Suction Conveyors.*—Canadian Engr., Dec. 18, 1913; p 867; 4200 w*; 35c.

———. *Aerial Ropeway with Single Carrying Rope.*—Mg. Mag., London, June, 1913; p 432; 350 w*; 35c.

——— *Modernization of Conveying Plants.*—Coal Age, Sept. 20, 1913; p 413; 700 w*; 20c.

Miscellaneous

Chamberlin, J. W.—*Coal Shipping on the Great Lakes.*—Coal Age, Aug. 9, 1913; p 188; 2500 w*; Aug. 16; 5500 w*; Sept. 6, 1913; p 338; 3000 w*; Sept. 13, 1913; p 374; 4500 w*; Sept. 20, 1913; p 408; 2500 w*; $1.

Eddy, Lewis H.—*California Oil Pipe Lines.*—E. & M. J., June 28, 1913; p 1299; 500 w; 25c.

Hillman, Walter. — *Ueber Golderzbereitung.* [The treatment of gold ores] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 689; 22,500 w*; 50c.

Hinze, K.—*Kontinueierlich und schellfordernde Transporteinrichtungen f r die Bewegung von Schwertgütern.* [Continuous rapid-operating transportation apparatus for conveying heavy materials].—Fördertechnik, July, 1913; p 166; 2000 w*; Aug., 1913; p 181; 1000 w*; Sept., 1913; p 207; 2200 w*; $1.85.

Jackson, G. J.—*Bulldozing Chute and Underswung Gate.*—E. & M. J., Oct. 18, 1913; p 735; 500 w*; 25c.

Randolph, Beverly.—*Animal Haulage in Coal Mines.*—Colly. Engr., Oct., 1913; p 139; 3200 w*; 35c.

Rice, Claude T.—*Milling in Southwestern Missouri.* (Second article).—E. & M. J., June 28, 1913; p 1283; 5000 w*; 25c.

Rice, A. S.—*Mining Magnetite by Steam Shovel in Sweden.*—Iron Tr. Rev., Nov. 27, 1913; p 953; 5000 w*; 25c.

Rodgers, C. Earl.—*The Motherlode Mill, Salmo, B. C.*—E. & M. J., Sept. 20, 1913; p 529; 3800 w*; 25c.

Schaphorst, W. F.—*Creep of Belts.*—Mech. Wld., London, Nov. 21, 1913; p 249; 1600 w*; 35c.

Thompson, A. E.—*Practical Mule Haulage in Coal Mines.*—Colly. Engr., Oct., 1913; p 166; 2000 w; 35c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report.*—(See under Lead.)

——— *Ginpole of Ten-Inch Pipe.*—E. & M. J., Dec. 13, 1913; p 1119; 400 w*; 25c.

———. *Ingenious Placer Operations Near Manhattan, Nevada.*—Mg. & Eng. World, Aug. 2, 1913; p 200; 700 w; 10c.

——— *The Protection of Pit Ponies.*—Colly. Engr., Oct., 1913; p 169; 500 w*; 35c.

——— *Transporting Coal in China.*—M. & S. P., Dec. 20, 1913; p 973; 700 w*; 20c.

———. *Transportation in the Orient.*—M. & S. P., Aug. 16, 1913; p 268; 2000 w; 20c.

STORAGE, HANDLING, ETC.

Benker and Millberg. — *L'Excavation Mécanique des Fosses à Superphosphate et Notamment au Moyen de l'Appareil du Système Wenk.* [The mechanical excavation of superphosphate pits, especially by means of the apparatus of the Wenk system] (Communication to Soc. d'Encouragement pour l'Industrie National, France).—Le Phosphate, Aug. 4, 1913; p 733; 1500 w; 35c.

Edsall, Henry.—*Ash and Coal Handling Equipments.*—Coal Age, July 12, 1913; p 38; 1800 w*; 20c.

Fawcett, Waldron.—*Storage of Iron Ore.* Cassiers Engg. Mthly., Sept., 1913; p 155; 3 pp*; 25c.

Gall, W. C.—*Filling Distribution at the North Mine, Australia.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 176; 5 pp*; 75c.

Juretzka, Franz.—*Erz- und Kohle-silos und Transport zu den Verbrauchsstellen, mit be sonderer Berücksichtigung der Zinkhüttenverhältnisse.* [Ore and coal silos and transport to place of consumption, with special reference to zinc-smelting conditions].—Metall & Erz, Sept. 8, 1913; p 745; 1000 w*; 50c.

Peterson, Peter E.—*Copper Leaching at Butte, Mont.*—Mg. & Eng. World, Sept. 6, 1913; p 423; 2600 w*; 10c.

Scholtze, G.—*Mechanische Schachtbedienung.* [Mechanical shaft service. A number of different cage-loading devices].—Kohle & Erz, Sept. 1, 1913; p 901; 3000 w*; 35c.

Shaw, R. H.—*Design for an Air Lift for Elevating Pulp in Cyanide Plants.*—Mg. & Eng. World, Nov. 29, 1913; p 966; 100 w*; 10c.

Stratton, J. H.—*The Development of Ore Unloading on the Great Lakes.*—Jnl. Cleveland Engg. Soc., July, 1913; p 3; 25 pp*; 50c.

Thompson, N. H., and Sicka, L. T.—*Tooele Plant of the International Smelting & Refining Co.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 16, 1913; p 291; 3800 w; 10c.

Trautschold, Reginald. — *Mechanical Handling of Materials.*—Canadian Engr., Aug. 21, 1913; p 345; 5300 w*; 35c.

Tupper, C. A.—*Lowering Furnace-Flux Costs.*—Mg. & Eng. World, June 28, 1913; p 1223; 3200 w*; 10c.

Vail, Richard H.—*New Smelter of the United Verde Copper Co., Arizona.*—E. & M. J., Aug. 16, 1913; p 287; 4000 w*; 25c.

Wierum, H. F.—*Ore Bedding by the Tennessee Copper Co.*—E. & M. J., Sept. 6, 1913; p 435; 2800 w; 25c.

Williams, R. D.—*Coal Unloading Machines at Fort William, Ont.* (Describes the Hulett unloader).—Iron Trade Rev., Oct. 2, 1913; p 577; 1100 w*; 25c.

Wintermeyer, Dipl.-Ing.—*Maschinelle Beschickungsvorrichtungen für Förderkörbe.* [Mechanical loading apparatus for hoisting cages].—Glückauf, Aug. 16, 1913; p 1287; 3000 w*; 50c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report.*—(See under Lead.)

F. H.—*Neue Untersuchungen über Aufbewahrung von Sprengstoffen;* [New investigations on the storing of explosives].—Kohle und Erz, May 12, 1913; p 487; 1200 w; 35c.

———. *Handling Ore from Stock Pile at the Miami Mine, Ariz.*—M. & S. P., Nov. 1, 1913; p 885; 500 w*; 20c.

———. *La Combustion Dite Spontanée des Charbons et Leur Emmagasinage.* [The spontaneous combustion and storage of coal].—La Metallurgie, May 21, 1913; p 400; 200 w; 35c.

———. *Ore Haulage with Gasoline Engines at Trojan Mine, S. D.*—Mg. & Eng. World, Aug. 2, 1913; p 216; 500 w; 10c.

———. *The New Clinchfield Dock at Charleston, S. C.*—Bl. Diam., Aug. 2, 1913; p 26; 11 p*; 25c.

———. *Reinforced-Concrete Tailings Bin.*—E. & M. J., Aug. 16, 1913; p 305; 700 w*; 25c.

———. *The Adolf-Emil Iron and Steel Works, Esch, Luxemburg.*—Ir. & C. Tr. Rev., May 30, 1913; p 875; 5000 w*; 35c.

———. *Verrichtung zur schnellen Entladung von Eisenbahnwagen;* [Apparatus for the rapid unloading of railroad cars].—Bergbau, June 19, 1913; p 403; 1900 w*; 35c.

ACCIDENTS

Adams, F. K.—*Half the Coal Mine Accidents Can Be Eliminated.* (Paper read before Mine Inspectors' Institute, Birmingham, Ala.; abstract).—Coal Tr. Bull., July 15, 1913; p 43; 1700 w; 25c. C. & C. Opr., July 17, 1913; p 256; 1800 w; 25c.

Alliott, J. R. L.—*The Reopening of Norton Colliery with Self-Contained Breathing Apparatus After an Explosion.* (Abstract of paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 912; 5700 w; 35c.

Ashworth, James.—*The Combustion of Oxygen and Coal Dust in Mines.*—Coll'y Engr., July, 1913; p 709; 1200 w; 35c.

Ashworth, James.—*Report of English Explosions in Mines Committee.*—Coll'y Engr., Sept., 1913; p 92; 1300 w; 35c.

Baker, Henry D.—*Modern Methods in Indian Gold Mining.* (U. S. Consular report; abstract).—Mg. & Eng. World, Sept. 27, 1913; 2600 w; 10c.

Beard, J. T.—*Mine Inspectors' Institute, U. S. A.*—Coal Age, June 21, 1913; p 962; 2200 w; 20c.

Brown, Ralph D.—*Mine Accidents and Their Relation to Management.*—Coal Age, Nov. 22, 1913; p 760; 1900 w; 20c.

Brunton, D. W.—*Mining Problems and the Mining Congress.* (Presidential address delivered before Am. Mg. Cong.).—M. & S. P., Nov. 22, 1913; p 815; 4200 w; 20c.

Brunton, David W., and Davis, John A.—*Safety in Tunneling.* (Miners' Circular No. 13, U. S. Bur. Mines).—Coal Tr. Bull., Dec. 1, 1913; p 30; 7000 w; 25c.

Cadman, John.—*The Use of Injectors on Breathing Apparatus.* (Abstract of paper read before Int. Cong. on Rescue Work and Accident Prevention, Vienna).—Coal Age, Nov. 22, 1913; p 777; 1900 w; 20c.

Chance, H. M.—*Mine Taxation.* (Paper read before Am. Mg. Cong.).—Coal Tr. Bull., Nov. 15, 1913; p 30; 2500 w; 25c.

Donath, Ed. — *Ueber Hochofendurchbrüche.* [On blast-furnace breakthroughs].—Montanist Rundschau, Nov. 1, 1913; p 819; 2000 w; Nov. 16, 1913; p 1090; 2800 w*; Dec. 1; p 1157; 2300 w*; Dec. 16, 1913; p 1214; 3000 w*; $1.40.

Doolittle, Wm. H.—*Industrial Accident Prevention.* (Paper read before Natl. Conv. of the Metal Trades, Canada).—C. & C. Opr., Aug. 14, 1913; p 346; 1500 w; 20c.

Dunlop, John.—*Some Unreduced Death Rates in Illinois.* (Abstract of paper read at fuel conference at Urbana, Ill.).—Coal Age, June 28, 1913; p 984; 1200 w; 20c.

Eddy, Lewis H.—*Righting an Overturned Gold Dredge.*—E. & M. J., Oct. 25, 1913; p 773; 2500 w*; 25c.

Fay, Albert H.—*Metal-Mine Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 40, U. S. Bureau of Mines; 54 pp.

Fay, Albert H.—*Quarry Accidents in the United States During the Calendar Year* 1911.—Tech. Paper 46, U. S. Bureau of Mines; 32 pp.

Fay, Albert H.—*Monthly Statement of Coal-Mining Fatalities in the United States; April,* 1913, *with Revised Figures for Preceding Months.*—U. S. Bureau of Mines; 15 pp.

Fay, Albert H.—*Monthly Statement of Coal-Mine Fatalities in the United States, May,* 1913, *with Revised Figures for Preceding Months.*—Washington, D. C.; U. S. Bureau of Mines; 15 pp.

Fay, Albert H.—*Monthly Statement of Coal-Mine Fatalities in the United States, July,* 1913, *with Revised Figures for Preceding Months.*—U. S. Bureau of Mines; 19 pp.

Fay, Albert H.—*Monthly Statement of Coal-Mine Fatalities in the United States, August,* 1913, *with Revised Figures for Preceding Months.*—U. S. Bureau of Mines; 20 pp.

Fay, Albert H.—*Monthly Statement of Coal Mine Fatalities in the United States, September,* 1913, *with Revised Figures for Preceding Months.*—U. S. Bureau of Mines; 21 pp.

Fillunger, August.—*Grubenbrände, deren Entstehung und Gewältigung unter besonderer Berücksichtigung der Verhältnisse des Steinkohlenbergbaues und der Schlagwettergruben.* [Mine fires, their cause and mastery, with special reference to the conditions of coal mining and of gaseous mines]. Montanist. Rundschau, Nov. 16, 1913; p 1085; 4500 w; Dec 1, 1913; p 1152; 4000 w; 70c

Fraser, W.—*Mines Statement, New Zealand, for* 1912.—Minister of Mines, New Zealand; 142 pp*.

Glasgow, M. W., Raudenbush, W. A., and Roberts, C. O.—*First-Aid Instruction for Miners.*—Miners' Circular 8, U. S. Bureau of Mines; 66 pp*.

Garforth, W. E.—*The Principle of Stone Dusting for the Prevention of Colliery Explosions.* (Paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 911; 4800 w; 35c. Mg. Jnl., London, June 14, 1913; p 587; 5000 w; 35c.

Griffiths, D. J.—*How to Reduce Falls from Roof and Sides* (Abstract of paper read before Rocky Mt. Coal Mg. Inst.).—Coal Age, July 12, 1913; p 47; 1200 w; 20c.

Hall, R. Dawson.—*Two Recent Coal Mining Disasters* [at Senghenydd and Dawson].

—Coal Age, Nov. 15, 1913; p 725; 1900 w*; 20c.

Hayden, H. H.—*The Mineral Production of India in* 1912. (Abstract of India Geol. Surv. report).—Colly. Guard., Nov. 14, 1913; p 1012; 3000 w; 35c.

Henderson, W. E.—*How to Handle a Mine Fire.* (Paper read before Keystone Mg. Inst.; abstract).—Coal Tr. Bull., Aug. 1, 1913: p 47; 1500 w; 25c.

Hills, Richard C.—*Shale Dust as a Deterrent in Coal Dust Explosions.* (Paper read before Colo. Sci. Soc.).—C. & C. Opr., Aug. 14, 1913; p 345; 2000 w; 20c.

Hills, Richard C.—*Investigation of Roof-Shale Dust with Reference to its Adaptability as a Deterrent in Coal-Dust Explosions.*—Proc. Colo. Sci. Soc., Vol. X, pp 265-278*; 65c.

Hoffman, F. L.—*Non-Fatal Accidents in Bituminous Mines.*—Coal Age, Aug. 9, 1913; p 195; 4800 w; 20c.

Hoffman, Frederick.—*Metal Mine Accidents in British Columbia.*—E. & M. J., Nov. 15, 1913; p 931; 2000 w; 25c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June* 30, 1912.—U. S. Dep. of the Interior; 88 pp.

Holmes, J. S.—*Forest Fires in North Carolina During* 1912 *and National and Association Co-operative Fire Control.*—Economic Paper No. 33, North Carolina Geol. & Econom. Survey; 63 pp*.

Horton, Frederick W.—*Coal-Mine Accidents in the United States,* 1896-1912, *with Monthly Statistics for* 1912.—Technologic Paper 48, U. S. Bureau of Mines; 74 pp*.

Horton, Frederick W.—*Monthly Statement of Coal-Mining Accidents in the United States, January and February,* 1913.—U. S. Bureau of Mines; 12 pp.

Horton, F. W.—*Collecting Accurate Statistics of Coal Mine Accidents.* (Abstract from Bull. 69, U. S. Bur. of Mines).—Mg. & Eng. World, Nov. 22, 1913; p 925; 650 w; 10c.

Jiminez, Carlos.—*Estadistica Minera del Peru,* 1911. [Mining statistics of Peru, 1911].—Boletin Cuerpo Ing. Minas, Peru. No. 78; p 9; 72 pp; 75c.

Jones, L. M.—*Prevention of Haulage-Way Accidents.* (Paper read before Alabama Coal Oprs. Assn.; abstract).—C. & C. Opr., Aug. 28, 1913; p 383; 25c. Coal Tr. Bull., Sept. 1, 1913; p 41; 3500 w; 25c.

Kneeland, Frank H.—*Preventing Accidents from Machines.*—Coal Age, Oct. 4, 1913; p 480; 1200 w*; 20c.

Knox, George.—*Relation of Subsidence to Packing.* (Trans. Manchester Geol. & Mg. Soc.).—Coll'y Engr., Sept., 1913; p 87; 3400 w*; 35c.

Lamplough, F. E. E., and Hill, A. Muriel.—*The Slow Combustion of Coal Dust and Its Thermal Value.* (Abstract of paper read before Inst. Mg. Engrs., London).—Coll'y Guard., June 6, 1913; p 1212; 2700 w; 35c.

Lomax, James.—*Spontaneous Combustion of Coal.* (Paper read before Inst. Mg. Engrs.).—Colly. Guard., London, Sept. 26, 1913; p 630; 3500 w; 35c. Iron & Coal Tr. Rev., Sept. 26, 1913; p 594; 6000 w; 35c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCune, Robert.—*The Air Current and Mine Explosions.*—Coal Age, July 5, 1913; p 25; 700 w; 20c.

McNeil, John.—*Prevention of Accidents in Coal Mines* (Abstract of paper read before Rocky Mt. Inst.).—Coal Age, July 12, 1913; p 42; 2500 w; 20c.

Nesbitt, C. H.—*Value of a Safety Inspector and Instructor for Each Coal Mine.*—Coal Tr. Bull., Aug. 15, 1913; p 32; 1600 w; 25c.

Powell, J. W.—*A Gas-Ignition Controversy.* [Theory of the explosion of the Bellevue coal mine, Alberta, Dec. 9, 1910].—Coal Age, June 28, 1913; p 985; 4000 w*; 20c.

Price, William Z.—*The Brookside (Pa.) Mine Disaster.*—Coll'y Engr., Sept., 1913; p 101; 3800 w*; 35c.

Rice, George S., Jones, L. M., Clement, J. K., and Egy, W. L.—*First Series of Coal-Dust Explosion Tests in the Experimental Mine.*—Washington, D. C.; Bulletin 56, U. S. Bureau of Mines; 115 pp*.

Rice, Geo. S., and Jones, L. M.—*Coal Dust Explosion Test, U. S. Bureau of Mines.*—Mg. & Eng. World, Oct. 18, 1913; p 701; 3000 w*; 10c. Black Diam., Oct. 11, 1913; p 16; 2500 w; 25c.

Rowan, Henry.—*Mine Fires.*—Colliery Engr., Aug., 1913; p 16; 300 w; 35c.

Sellars, E. L., and Campbell, C.—*Some of the Conditions Affecting Explosions of Coal Gas and Air.*—Jnl. Soc. Chem. Ind., London, July 31, 1913: p 730; 4000 w*; 65c.

Taffanel, M. J.—*Neue Erfahrungen über den Steinkohlenstaub und die Mittel seine Gefahren zu bekämpfen.* [Recent experiences with coal dust and means for combatting its dangers] (Translated from Annales des Mines).—Zts. Zentral Verbd. Bergbau Betriebsl., Oct. 1, 1913; p 613; 1200 w; Oct. 15; p 654; 1800 w*; 70c.

Taffanel, J.—*Station d'Essais de Liévin.* [The Liévin testing station, France] (Report to Assemblée Générale du Comité Central des Houillères de France).—Bull. Soc. Amicale Douai, Aug. 25, 1913; p 564; 3500 w; 35c.

Taylor, James. — *Fire Protection of Mines; The Importance of the "Human Element" as Well as Proper Equipment for Guarding Against Mine Fires.* (Address delivered at Mg. Conference at dedication of Mg. Laboratories at Univ. of Ill.).—Colliery Engr., Aug., 1913; p 28; 1600 w; 35c.

Walsh, William.—*Accidents in Montana Mines in* 1912.—Mg. & Eng. World, July 12, 1913; p 60; 1000 w; 10c.

Watts, A. C.—*Mine-Safety Precautions in Utah.*—Coal Age, Oct. 4, 1913; p 484; 700 w; 20c.

West, Thomas D.—*Recording Memoranda on Accident Prevention.*—Bull. Am. Foundrymen's Assn.; p 131; 4 pp; 35c.

Whiteside, F. W.—*Safety Provisions of the Victor American Fuel Co., Colo.*—Coal Age, Oct. 11, 1913; p 528; 4200 w*; 20c.

Woodbridge, Dwight E.—*Mine-Accident Prevention at Lake Superior Iron Mines.*—Tech. Paper 30, U. S. Bureau of Mines; 38 pp*.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report*—(See under Lead.)

J. A. S.—*Production of Stone Dust in Collieries.*—Coll'y Engr., Sept., 1913; p 90; 1100 w*; 35c.

J. E. S.—*Prevention of Coal-Dust Explosions.*—Colliery Engr., Aug., 1913; p 10; 600 w*; 35c.

———. *Coal Mine Fires.* (Miscellaneous excerpts).—Coll'y Engr., July, 1913; p 690; 1000 w; 35c.

———. *Coal Mines Operated Under Direction of U. S. Bureau of Mines.*—Mg. & Eng. World, June 21, 1913; p 1195; 2000 w; 10c.

———. *Coal Mines Under the Sea.*—Colliery Engr., Aug., 1913; p 17; 1000 w; 35c.

——— *Die belgische Bergwerksindustrie im Jahre* 1912. [The Belgian mining industry in 1912].—Glückauf, Nov. 20, 1913; p 1981; 2400 w; 50c.

——— *Die tödlichen Verunglückungen beim Bergwerksbetrieb im Oberbergamtsbezirk Dortmund im Jahre* 1912. [The fatal mine accidents in the Upper Dortmund mining district, Germany].—Glückauf, July 12, 1913; p 1106; 3000 w; 50c.

——— *Die Ursachen der Kohlenstaubexplosion.* [The causes of coal-dust explosion].—Kali, Erz & Kohle, Dec. 5, 1913; p 1217; 1100 w; 35c.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——— *Explosion at Acton No.* 2 *Mine, Alabama.*—Coal Age, Nov. 29, 1913; p 819; 1800 w*; 20c.

———. *Explosions at the Cadeby Main Colliery* (England).—Coal Age, June 21, 1913; p 951; 2200 w*; 20c.

——— *Liquid Air for Use in Rescue Work in Mines.*—Iron & Coal Tr. Rev., Nov. 28, 1913; p 848; 2000 w*; 35c.

——— *Michigan Mines and Industrial Accidents.* [Editorial].—Mg. & Eng. World, Oct. 25, 1913; p 729; 300 w; 10c.

——— *Mine Fatalities in Different Countries.*—S. A. Mg. Jnl., July 5, 1913; p 491; 1300 w; 35c.

——— *Mining Immigration and Mine Accidents.* [Editorial].—Mg. & Eng. World, Oct. 18, 1913; p 679; 10c.

——— *Mitteilungen über einige der bemerkenswertesten Explosionen beim preussischen Steinkohlenbergbau im Jahre* 1912. [Communications on some of the most noteworthy explosions in Prussian coal mining in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 313; 3400 w*; $1.50.

——— *Moving Pictures as an Aid to Mine Accident Prevention.*—Coll'y Engr., Sept., 1913; p 97; 2500 w; 35c.

———. *New General Regulations for British Coal Mines.*—Colly. Guard., London, Aug. 1, 1913; (supplement) 11,000 w; 35c. Iron & Coal Tr. Rev., Aug. 1, 1913; p 151; 10,000 w; 35c.

———. *New General Regulations for British Coal Mines.* (Abstracted from Colly. Guard.).—Coal Tr. Bull., Aug. 15, 1913; p 35; 4000 w; 25c.

———. *Preventing Accidents in Metal Mines.*—Mg. & Eng. World, June 21, 1913; p 1177; 650 w; 10c.

——— *Rand Mining Accidents and Deaths in* 1912. (Abstract from annual report Mines Dept. Union of S. Afr.).—E. & M. J., Oct. 11, 1913; p 697; 4500 w; 25c.

——— *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June* 30, 1912.—U. S. Dept. of the Interior; 24 pp.

——— *Report on Mining Operations in the Province of Quebec During the Year* 1912.—(See under Copper.)

——— *Schlagwetter- und Kohlenstaubexplosionen in Preussen.* [Fire-damp and coal dust explosions in Prussia].—Bergwerks-Ztg., Nov. 12, 1913; p 1; 500 w; 35c.

———. *Shaefer Method of Resuscitation; Prone Pressure Method of Resuscitation of Those Asphyxiated or Who Have Received Electric Shocks.* (Contains abstract from "Resuscitation," by Charles A. Lauffer, M. D.).—Colliery Engr., Aug., 1913; p 53; 1000 w*; 35c.

——— *Spontaneous Combustion in Coal Mines.* (Evidence given before Committee of Investigation in Great Britain).—Iron & Coal Trade Rev., Dec. 5, 1913; p 880; 4500 w; 35c.

——— *Technische Fortschritte im Bergwerkswesen. Massregel zur Bekämpfung von Grubenbränden.* [Technical progress in mining. Measures for fighting mine fires].—Kali, Erz & Kohle, Oct. 5, 1913; p 999; 2800 w; 35c.

——— *The Influence of Incombustible Dusts in Preventing the Inflammation of Coal Dust.* (Concluding report of British Explosions in Mines Committee).—Colly. Guard., Nov. 28, 1913; p 1101; 10,000 w*; 35c.

——— *The New Coal-Dust Experiments, Great Britain.* (Fifth report of Explosions in Mines Committee).—Iron & Coal Tr. Rev., London, Nov. 21, 1913; p 803; 12,000 w; 35c.

——— *The Work of the West Virginia Mining Association.*—Mg. & Eng. World, Sept. 20, 1913; p 512; 800 w; 10c.

——— *Unfälle in elektrischen Betrieben auf den Bergwerken Preussens im Jahre* 1912. [Electrical accidents in Prussian mines in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 321; 16,000 w*; $1.50.

——— *Verunglückungen mit tödlichem Ausgange beim Bergwerksbetriebe Preussens während des Jahres* 1912. [Accidents with fatal consequences in mining operations in Prussia in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, 1st Statistical Number, 1913; p 14; 17 pp; $1.50.

——— *Winding Accidents on the Rand.* —E. & M. J., Dec. 13, 1913; p 1111; 650 w; 10c.

SANITATION

Hatfield, H. A.—*Sanitation and Health of the Mining Community.* (Paper read before W. Va. Coal Mg. Inst.).—Coal Trade Bull., Dec. 15, 1913; p 29; 3500 w; 25c.

Moulton, H. W.—*Importance of Sanitation in Mine Location.* (Abstract of paper presented before Lake Sup. Mg. Inst.).—Mg. & Eng. World, Oct. 25, 1913; p 743; 1500 w; 10c.

Recktenwald, J.—*Die Verwendung von Druckwasser beim Bergbau.* [The use of water under pressure in mining].—Berg & Hüttenm. Rundschau, May 5, 1913; p 189; 1200 w; 35c.

Rice, Claude T.—*Recent Advance in Butte Mining Practice.*—Mg. & Eng. World, July 26, 1913; p 143; 5300 w; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 26, 1913; p 143; 5300 w; Aug. 16, 1913; p 287; 2200 w*; Aug. 30, 1913; p 367; 5000 w*; Sept. 13, 1913; p 465; 2800 w*; 40c.

Rybák, O.—*Der Einfluss des Methans auf den menschlichen Organismus.* [The influence of methane on the human organism]. —Montanistische Rundschau, Oct. 16, 1913; p 986; 330 w; 35c.

Smith, E. E.—*Acetylene as Illuminant in Mines.* (Abstract of paper read before Internat. Acetylene Assn.).—Mg. & Eng. World, Dec. 20, 1913; p 1111; 2600 w; 10c.

Walker, William.—*Baths for Miners.* (Abstract of address before Scottish Fed. Inst. Mg. Students).—Ir. & C. Tr. Rev., London, July 11, 1913; p 46; 3300 w; 35c.

White, J. H.—*Sanitation in Mining Towns* (Abstract of address before senior sanitary engrs., Univ. of Pa.).—Coal Age, July 12, 1913; p 59; 1800 w*; 20c. E. & M. J., July 12, 1913; p 73; 2000 w; 25c.

White, J. H.—*Mine and Mine Town Sanitation.* (Paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., June 26, 1913; p 189; 2700 w; 20c.

Wolf, Harry J.—*Health as a Factor in an Engineer's Efficiency.*—Colo. Sch. of Mines Mag., July, 1913; p 155; 3 pp*; 35c.

Woodbridge, Dwight E.—*Sanitation at Mining Villages in the Birmingham District, Ala.*—Tech. Paper 33, U. S. Bureau of Mines; 27 pp*. Black Diam., Oct. 18, 1913; p 15; 2000 w*; 20c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report.*—(See under Lead.)

———. *Bath House at Cameron Colliery, Shamokin, Pa.*—Coll'y Engr., July, 1913; p 679; 1800 w*; 35c.

——— *Coal Mines Inspection in Great Britain in* 1912. (Abstracts from annual reports of inspectors of mines).—Colly. Engr., London, Sept. 12, 1913 (Supplement); 24 pp*; 35c.

——— *Das Augenzittern der Bergleute.* [Eye oscillation (Nystagmus) of miners].—Bergbau, Dec. 4, 1913; p 812; 2500 w; 35c.

———. *Dustless Breakers.* — Colliery Engr., Aug., 1913; p 29; 300 w; 35c.

———. *Improvement of Miners' Surroundings.*—M. & S. P., July 19, 1913; p 106; 800 w; 20c.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912—Bulawayo; 136 pp.

———. *New General Regulations for British Coal Mines.*—Colly. Guard., London, Aug. 1, 1913; (supplement) 11,000 w; 35c. Iron & Coal Tr. Rev., Aug. 1, 1913; p 151; 10,000 w; 35c.

———. *New General Regulations for British Coal Mines.* (Abstracted from Colly. Guard.).—Coal Tr. Bull., Aug. 15, 1913; p 35; 4000 w; 25c.

——— *Report of a Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

——— *Safety and Health First.* [Editorial].—M. & S. P., Dec. 20, 1913; p 955; 1000 w; 20c.

——— *Sanitation in Lake Superior Mines and Mine Towns.* (Reprint of paper read before Lake Superior Mg. Inst. by W. H. Moulton).—E. & M. J., Aug. 30, 1913; 1600 w; 25c.

——— *Septic Tanks at Clarkdale, Ariz.* —E. & M. J., Sept. 27, 1913; p 584; 1000 w*; 25c.

———. *The Britton Automatic Water Spray for Hammer Drills.*—Ir. & C. Tr. Rev., May 30, 1913; p 882; 1200 w*; 35c.

———. *The Mine-Sanitation Section of the United States Bureau of Mines.* (Bull. U. S. Bur. of Mines).—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

———. *United Verde's New Change House.*—E. & M. J., July 26, 1913; p 163; 500 w*; 25c.

SAFETY

Alcott, W. J.—*Safety Regulations in Underground Mining.* (Abstract from printed rules of Oliver Iron Mg. Co.).—Mg. & Eng. World, Dec. 6, 1913; p 1014; 3600 w; 10c.

Alliott, J. R. L.—*The Reopening of Norton Colliery with Self-Contained Breathing Apparatus After an Explosion.* (Abstract of paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 912; 5700 w; 35c.

Baumann, F. — *Seilsicherheit bei der Schnachtförderung.* [Rope safety in shaft hoisting].—Kohle & Erz, Sept. 1, 1913; p 882; 6000 w*; 35c.

Beard, J. T.—*Mine Inspectors' Institute, U. S. A.*—Coal Age, June 21, 1913; p 962; 2200 w; 20c.

Blackett, W. C.—*Combustion of Oxygen and Coal Dust.* (Paper read before North of England Inst. Mg. & Mech. Engrs.; abstract).—Austr. C. & I. Tr. Rev., June 5, 1913; p 317; 6500 w; 35c.

Blau, Ernst.—*Die Leonard-Schaltung und ihre Andwendungen.* [The Leonard control and its applications].—Kohle & Erz, Aug. 18, 1913; p 818; 1400 w; 35c.

Brehm, Clyde G.—*Safeguarding Electricity in Mines.* (Paper read before Coal Mg. Inst. of Am.).—Coal Age, Dec. 6, 1913; p 854; 2400 w; 20c.

Brown, Ralph D.—*Mine Accidents and Their Relation to Management.*—Coal Age, Nov. 22, 1913; p 760; 1900 w; 20c.

Brunton, David W., and Davis, John A.—*Safety in Tunneling.* (Miners' Circular No. 13, U. S. Bur. Mines).—Coal Tr. Bull., Dec. 1, 1913; p 30; 7000 w; 25c.

Burns, Daniel.—*Safety in Coal Mines, a Textbook of Fundamentals for Firemen and Other Workers in Mines.*—London, Blackie & Son; 158 pp*; $1 (book).

Chambers, W. M.—*A Few Thoughts and Suggestions on Safety*—C. & C. Opr., Aug. 14, 1913; p 347; 1200 w; 20c.

Clark, H. H.—*The Use of Portable Electric Mine Lamps.* (Technical paper No. 47, U. S. Bureau of Mines; abstract).—Mg. & Eng. World, Aug. 30, 1913; p 381; 2200 w; 10c.

Clark, H. H.—*Safety Electric Switches for Mines.*—Washington, D. C.; Technical Paper 44, U. S. Bureau of Mines; 8 pp.

Clark, H. H.—*Portable Electric Mine Lamps in Mine Work.* (Address delivered before Coal Mg. Inst. America).—Mg. & Eng. World, Dec. 6, 1913; p 1019; 5000 w; 10c. M. & S. P., Dec. 13, 1913; p 934; 1000 w; 20c.

Courtois-Suffit, Dr.—*Ueber hygienische Verbesseurngen in der Industrie der Pulver und Sprengstoffe.* [On hygienic improvements in the powder and explosives industry].—Zts. Sprengstoffw., Aug. 1, 1913; p 291; 3000 w*; Aug. 15; p 309; 3400 w*; 70c.

Dawson, Thomas W.—*Safety; the First Consideration.* (Coal mining).—Coal Tr. Bull., June 16, 1913; p 47; 3000 w; 25c.

Doolittle, Wm. H.—*Industrial Accident Prevention.* (Paper read before Natl. Conv. of the Metal Trades, Canada).—

C. & C. Opr., Aug. 14, 1913; p 346; 1500 w; 20c.

Fillunger, August.—*Grubenbrände, deren Entstehung und Gewältigung unter besonderer Berücksichtigung der Verhältnisse des Steinkohlenbergbaues und der Schlagwettergruben.* [Mine fires, their cause and mastery, with special reference to the conditions of coal mining and of gaseous mines]. Montanist. Rundschau, Nov. 16, 1913; p 1085; 4500 w; Dec. 1, 1913; p 1152; 4000 w; 70c.

Freeman, W. E.—*Safeguards in the Use of Electricity in Mines.* (Paper read before Kentucky Mg. Inst.).—Coal & Coke Opr., Dec. 18, 1913; p 125; 2800 w; 25c.

Garforth, W. E.—*The Principle of Stone Dusting for the Prevention of Colliery Explosions.* (Paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 911; 4800 w; 35c. Mg. Jnl., London, June 14, 1913; p 587; 5000 w; 35c.

Goodale, Stephen L.—*Leasing and Low-Grade Milling at Cripple Creek.*—M. & S. P., Aug. 23, 1913; p 297; 5500 w*; 20c.

Griffiths, D. J.—*How to Reduce Falls from Roof and Sides* (Abstract of paper read before Rocky Mt. Coal Mg. Inst.).—Coal Age, July 12, 1913; p 47; 1200 w; 20c.

Hallwood, E. A.—*A Defense of the Flame Safety Mine Lamp.* (Abstract of paper read before Am. Mg. Cong.).—Coal Age, Nov. 29, 1913; p 814; 3200 w; 20c.

Harger, John.—*Firedamp in Mines and the Prevention of Explosions.* (Abstract of lecture before Manchester Geol. & Mg. Soc.).—Ir. & C. Trades Rev., Nov. 14, 1913; p 761; 1700 w; 35c.

Herbst, Fr.—*Die Berechnung des Sicherheitsfactors der Schachtförderseile mit gesonderter Berücksichtigung des Gewichts der Förderlast und des Seilgewichtes.* [The calculation of the factor of safety of shaft hoisting rope taking into consideration the weight of the load being hoisted and of the weight of the rope].—Glückauf, Nov. 22, 1913; p 1936; 3200 w*; 50c.

Heym, Ingenieur.—*Die Gefahren der elektrischen Energie.* [The dangers of electrical energy].—Kali, Erz & Kohle, Sept. 15, 1913; p 915; 1200 w; 35c.

Higgins, Edwin.—*Safety in the Mines of the Iron Ranges.* (Abstract of paper read before Lake Sup. Mg. Inst.).—Mg. & Eng. World, Sept. 13, 1913; p 461; 3500 w*; 10c. Ir. Tr. Rev., Aug. 28, 1913; p 390; 3000 w; 25c.

Hills, Richard C.—*Investigation of Roof-Shale Dust with Reference to Its Adaptability as a Deterrent in Coal-Dust Explosions.*—Proc. Colo. Sci. Soc., Vol. X, pp 265-278*; 65c. Abstract in C. & C. Opr., Aug. 14, 1913; p 345; 2000 w; 20c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June 30,* 1912.—U. S. Dep. of the Interior; 88 pp.

Holmes, J. S.—*Forest Fires in North Carolina During* 1912 *and National and Association Co-operative Fire Control.*—Economic Paper No. 33, North Carolina Geol. & Econom. Survey; 63 pp*.

Johnson, C.—*A Cage Fence Gate.* (Paper read before N. Staffordshire Branch of Nat. Assn; Coll'y Mgrs.; abstract).—Mg. Engg., London, June, 1913; p 112; 900 w*; 35c.

Jones, L. M.—*Prevention of Haulage-Way Accidents.* (Paper read before Alabama Coal Oprs. Assn.; abstract).—C. & C. Opr., Aug. 28, 1913; p 381; 25c.

Jones, J. E.—*Two Safety Devices.* [Describes an automatic mine switch and an automatic car coupler].—Coal Age, July 26, 1913; 1500 w*; 20c.

Kalbhenn, Josef.—*Neuerungen auf dem Gebiete des Zementierverfahrens.* [Innovations in the cementing off of underground waters in shafts].—Bergbau, Aug. 7, 1913; p 513; 3000 w*; 35c.

King, Austin.—*The Meaning of Safety-First.* (Abstract from News-Standard, Uniontown, Pa.).—C. & C. Opr., Nov. 13, 1913; p 39; 1750 w; 25c.

Kneeland, Frank H.—*Preventing Accidents from Machines.*—Coal Age, Oct. 4, 1913; p 480; 1200 w*; 20c.

Marcellus, Roy.—*Light Safety Crosshead.*—E. & M. J., Sept. 13, 1913; p 497; 300 w*; 25c.

Martin, A. H.—*Sand Filling as Support of Mine Workings.*—M. & M., June, 1913; p 223; 4000 w; 20c.

McNeil, John.—*Prevention of Accidents in Coal Mines* (Abstract of paper read before Rocky Mt. Mg. Inst.).—Coal Age, July 12, 1913; p 42; 2500 w; 20c.

Munroe, Charles E.—*Die Entwickelung des Explosivstoffwesens in den Vereinigten Staaten wärend der letzten drei Jahre.* [Explosives in the United States during the last three years] (Translation of communication to Eighth Internat. Cong. Applied. Chem.).—Zts. Schiess & Sprengstoffw., Sept. 1, 1913; p 328; 2000 w; 35c.

Nesbitt, C. H.—*Value of a Safety Inspector and Instructor for Each Coal Mine.*—Coal Tr. Bull., Aug. 15, 1913; p 32; 1600 w; 25c.

Nesbitt, C. H.—*The Value of a Safety Inspector and Instructor for Each Coal Mine.*—Coal Age, Aug. 9, 1913; p 207; 1900 w; 20c.

Olcott, W. J.—*Hints to Handlers of Explosives.* (Abstract from printed rules for employes of Oliver Iron Co.).—Mg. & Eng. World, Dec. 27, 1913; p 1151; 2000 w; 10c.

Paul, James W.—*The Use and Care of Miners' Safety Lamps.*—Miners' Circular 12, U. S. Bureau of Mines; 16 pp*.

Price, W. Z.—*American Mine Safety Association.* [Pittsburgh meeting].—Colly. Engr., Nov., 1913; p 207; 2500 w*; 35c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 16, 1913; p 287; 2200 w*; 10c.

Rice, Claude T.—*Recent Advance in Butte Mining Practice.*—Mg. & Eng. World, July 26, 1913; p 143; 5300 w; 10c.

Ryba, Gustav.—*Ueber Schutzvorrichtungen bei der Bremsbergförderung.* [On safety devices in inclined-plane haulage].—Montanist. Rundschau, No. 17, 1913; p 827; 1700 w; 35c.

Speer, Dr.—*Der Sicherheitsfaktor der Förderseile.* [The factor of safety of hoisting rope].—Glückauf, Oct. 18, 1913; p 1727; 5000 w*; 50c.

Taffanel, J.—*Neue Erfahrungen über den Steinkohlenstaub und über die Mittel, seine Gefahren zu bekämpfen;* [Recent experiences with coal dust and with the means for combatting its dangers] (Second chapter of translation into German from Annales des Mines).—Zts. Zentral-Verbd. Bergbau-Betriebsl., June 15, 1913; p 251; 4000 w*; July 1, 1913; p 383; 900 w; Aug. 1, 1913; p 456; 3000 w*; Sept. 1, 1913; p 540; 1200 w*; Oct. 1, 1913; p 613; 1200 w; Oct. 15, 1913; p 654; 1800 w*; Nov. 15, 1913; p 728; 2200 w*; Dec. 1; p 767; 3000 w; $2.80.

Taylor, James. — *Fire Protection of Mines; The Importance of the "Human Element" as Well as Proper Equipment for Guarding Against Mine Fires.* (Address delivered at Mg. Conference at dedication of Mg. Laboratories at Univ. of Ill.).—Colliery Engr., Aug., 1913; p 28; 1600 w; 35c.

Taylor, James.—*The Madison Coal Corporation Mine No. 9, Illinois.*—Coal Age, Nov. 1, 1913; p 640; 2300 w*; 25c.

Walker, Sydney F.—*The Difficulties Involved in Adding a Gas Detector to Portable Electric Lamps.*—Iron & Coal Tr. Rev., Nov. 28, 1913; p 841; 1800 w; 35c.

Walsh, William.—*Accidents in Montana Mines in* 1912.—Mg. & Eng. World, July 12, 1913; p 60; 1000 w; 10c.

Watts, A. C.—*Mine-Safety Precautions in Utah.*—Coal Age, Oct. 4, 1913; p 484; 700 w; 20c.

West, Thomas D.—*Recording Memoranda on Accident Prevention.*—Bull. Am. Foundrymen's Assn.; p 131; 4 pp; 35c.

Whiteside, F. W.—*Safety Provisions of the Victor American Fuel Co., Colo.*—Coal Age, Oct. 11, 1913; p 528; 4200 w*; 20c.

Woodbridge, Dwight E.—*Handling Explosives on the Iron Ranges.* (Abstract from Tech. Paper 30, U. S. Bureau of Mines).—Mg. & Eng. World, Nov. 29, 1913; p 975; 1000 w; 10c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report*—(See under Lead.)

J. A. S.—*Production of Stone Dust in Collieries.*—Coll'y Engr., Sept., 1913; p 90; 1100 w*; 35c.

J. E. S.—*Prevention of Coal-Dust Explosions.*—Colliery Engr., Aug., 1913; p 10; 600 w*; 35c.

———. *A New Mine-Rescue Telephone.*—Coal Age, June 21, 1913; p 960; 800 w*; 20c.

——— *A Novel Fire-damp Indicator.* [Haber].—Colly. Guard., London, Nov. 7, 1913; p 939; 2100 w*; 35c.

——— *American Mine Safety Association's Session.*—Coal Age, Oct. 4, 1913; p 491; 7000 w*; 20c.

——— *Approved Safety Lamps.* [Approved under Coal Mines Act, Great Britain].—I. & C. Tr. Rev., London, Sept. 12, 1913; p 420; 3000 w*; Sept. 19; 4000 w*; 70c

———. *Automatic-Telephone Systems for Mines.* [Editorial].—Mg. & Eng. World, Aug. 16, 1913; p 285; 500 w; 10c.

———. *Beschreibungen von zwei Bremsschacht- und Bremsbergverschlüssen.* [Descriptions of two safety stops for inclined planes and self-acting inclined planes].—Bergbau, July 3, 1913; p 433; 1000 w*; 35c.

———. *Cage with Munzer Safety Catches.*—E. & M. J., July 19, 1913; p 112; 750 w*; 25c.

——— *Coal Mines Inspection in Great Britain in* 1912. (Abstracts from annual reports of inspectors of mines).—Colly. Engr., London, Sept. 12, 1913 (Supplement); 24 pp*; 35c.

——— *Dust-Allaying Appliances in Rand Mines.* (Abstract from government report).—S. Af. Mg. Jnl., Sept. 6, 1913; p 15; 3 pp; 35c.

——— *Madison Coal Corporation Exhibition, Illinois.*—Colly. Engr., Dec., 1913; p 275; 5000 w*; 35c.

——— *Meeting of American Mine Safety Association at Pittsburgh.*—Mg. & Eng. World, Sept. 13, 1913; p 460; 400 w; 10c.

——— *Methods of Ventilation and Dust Prevention in Witwatersrand Mines.*—S. Af. Engg., Sept., 1913; p 57; 5000 w; 35c.

——— *Moving Pictures as an Aid to Mine Accident Prevention.*—Coll'y Engr., Sept., 1913; p 97; 2500 w; 35c.

———. *New General Regulations for British Coal Mines.*—Colly. Guard., London, Aug. 1, 1913; (supplement) 11,000 w; 35c. Iron & Coal Tr. Rev., Aug. 1, 1913; p 151; 10,000 w; 35c.

———. *New General Regulations for British Coal Mines.* (Abstracted from Colly. Guard.).—Coal Tr. Bull., Aug. 15, 1913; p 35; 4000 w; 25c.

———. *Portable Mine Rescue Telephone.*—E. & M. J., Aug. 9, 1913; p 246; 300 w*; 25c.

———. *Preventing Accidents in Metal Mines.*—Mg. & Eng. World, June 21, 1913; p 177; 650 w; 10c.

——— *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

——— *Safety Alarm for Slack Hoisting Rope.*—E. & M. J., Dec. 13, 1913; p 1117; 300 w*; 25c.

——— *Safety Gates for Shafts.*—Colly. Engr., Oct., 1913; p 162; 1400 w*; 35c.

——— *Safety and Health First.* [Editorial].—M. & S. P., Dec. 20, 1913; p 955; 1000 w; 20c.

———. *Safety Rules—Blasting.* (From Inland Steel Co.'s book of rules).—E. & M. J., Aug. 9, 1913; p 259; 500 w; 25c.

———. *Safety Rules—Hoisting Engineers* (Inland Steel Co. Rules).—E. & M. J., July 19, 1913; p 115; 400 w; 25c.

———. *Safety Rules—Instructions to Foremen* (From Inland Steel Co. Rules).—E. & M. J., July 19, 1913; p 120; 500 w; 25c.

———. *Safety Rules—The Shaft* (from Inland Steel Co.'s book of rules).—E. & M. J., July 12, 1913; p 67; 700 w; 25c.

———. *Sur les Tamis des Lampes de Sûreté.* [On the gauzes of safety lamps].—Bull. Soc. Amicale Douai, May 25, 1913; p 308; 900 w; 35c.

——— *Technische Fortschritte im Bergwerkswesen. Massregel zur Bekämpfung von Grubenbränden.* [Technical progress in mining. Measures for fighting mines fires].—Kali, Erz & Kohle, Sept. 25, 1913; p 956; 1500 w; Oct. 5, 1913; p 999; 2800 w; 70c.

——— *The Bennett Duplex Vertical Overwinding Controller.* — Colly. Guard., London, Aug. 29, 1913; p 421; 2000 w*; 35c.

——— *The New Coal-Dust Experiments, Great Britain.* (Fifth report of Explosions in Mines Committee).—Iron & Coal Tr. Rev., London, Nov. 21, 1913; p 803; 12,000 w; 35c.

——— *The Safe Handling of Missed Holes.*—E. & M. J., Nov. 29, 1913; p 1030; 900 w; 25c.

——— *Welch Hoisting Engine Controller.*—Mg. & Eng. World, Dec. 20, 1913; p 1114; 700 w*; 10c.

RESCUE AND FIRST-AID

Baker, Henry D.—*Modern Methods in Indian Gold Mining.* (U. S. Consular re-

port; abstract).—Mg. & Eng. World, Sept. 27, 1913; 2600 w; 10c.

Boyle, Daniel J.—*Is the First-Aid Situation Muddled?*—Coal Age, June 28, 1913; p 1005; 500 w*; 20c.

Bridges, S. J.—*Recovery Work at the Cadeby Main Colliery.*—Ir. & C. Tr. Rev., London, Aug. 8, 1913; p 198; 2200 w*; 35c.

Cadman, John.—*The Use of Injectors on Breathing Apparatus.* (Abstract of paper read before Int. Cong. on Rescue Work and Accident Prevention, Vienna).—Coal Age, Nov. 22, 1913; p 777; 1900 w; 20c.

Forstmann, Bergassessor. — *Prüfungsvorrichtungen für Sauerstoff-Atmungsgeräte.* [Testing appliances for oxygen-breathing apparatus].—Glückauf, Aug. 2, 1913; p 1216; 2200 w*; 50c.

Forstmann, Bergassessor.—*Ueber Sauerstoff-Atmungsgeräte mit und ohne Injectoren.* [On oxygen-breathing apparatus with and without injectors] (Address before Internat. Congress for Rescue and Accident Prevention).—Glückauf, Sept. 27, 1913; p 1600; 3000 w*; 50c.

Glasgow, M. W., Raudenbush, W. A., and Roberts, C. O.—*First-Aid Instruction for Miners.*—Miners' Circular 8, U. S. Bureau of Mines; 66 pp*.

Grahn, Bergassessor. — *Neuerungen auf dem Gebiet der Sauerstoff-Atmungsgeräte und damit angestellte Versuche.* [Innovations in the field of oxygen-breathing apparatus and experiments made therewith].—Glückauf, Sept. 27, 1913; p 1605; 2500 w*; 50c.

Hall, R. Dawson.—*The First-Aid Meet of the Susquehanna Coal Co.*—Coal Age, Oct. 4, 1913; p 497; 2300 w*; 20c.

Heym, W.—*Erste Hilfe bei Katastrophen in Kohlengruben.* [First aid in coal-mine accidents].—Kali, Erz & Kohle, Aug. 25, 1913; p 843; 700 w; 35c.

Heym, W. — *Mechanische Wiederbelebungs-Apparate.*—Kali, Erz & Kohle, Nov. 15, 1913; p 1143; 1000 w*; 35c.

Holmes, J. A.—*Lessons of the Year in Our Mining Industry.* (Address delivered before Am. Mng. Cong.).—M. & S. P., Nov. 1, 1913; p 680; 2000 w; 20c.

Llyod, W. Bert.—*The Stewart "Broken Back" Splint.*—Colliery Engr., Aug., 1913; p 32; 600 w*; 35c.

McDonald, P. B.—*U. S. Mine Rescue Car in the Lake Superior District.*—Canadian Mg. Jnl., Aug. 1, 1913; p 475; 750 w; 35c.

Menaugh, J. A.—*Fire Fighting, First-Aid and Rescue Work at Dewmaine, Ill.*—C. & C. Opr., Oct. 23, 1913; p 557; 2500 w*; 20c.

Popper, Josef.—*Ueber einige Neuerungen bei Sauerstoff-Rettungsapparaten mit Zirkulation.* [On some innovations in oxygen rescue apparatus with circulation].—Kohleninteressent, Sept. 15, 1913: p 233; 1000 w*; Nov. 17, 1913; p 817; 900 w*; 70c.

Popper, Josef.—*Ueber einige Neuerungen bei Sauerstoff-Rettungsapparaten mit Zirkulation.* [On some innovations in oxygen rescue apparatus].—Zts. Zentral Verbd. Bergbau Betriebsl., Oct. 1, 1913; p 605; 1300 w*; 35c.

Price, W. Z.—*American Mine Safety Association.* [Pittsburgh meeting].—Colly. Engr., Nov., 1913; p 207; 2500 w*; 35c.

Ryba, Gustav.—*Das Rettungswesen im Bergbau;* [Rescue methods in mining].—Zts. Zentral-Verbd. Bergbau-Betriebsl., June 1, 1913; p 326; 2100 w*; 35c.

Wilson, Herbert M.—*National Mine-Rescue and First-Aid Conference, Pittsburgh, Pa., Sept.* 23-26, 1912.—Washington, D. C.; Bull. 62, U. S. Bureau of Mines; 74 pp.

———. *A New Mine-Rescue Telephone.*—Coal Age, June 21, 1913; p 960; 800 w*; 20c.

——— *Equipment of Mine Rescue Stations in Canada.*—Mg. & Eng. World, Nov. 1, 1913; p 779; 500 w; 10c.

——— *First-Aid Meet at Knoxville, Tenn.*—Coal Age, Oct. 4, 1913; p 486; 3400 w; 20c.

——— *How Breathing Apparatus Works.*—Coal Age, Dec. 20, 1913; p 945; 4500 w*; 20c.

———. *Life-Saving Appliances; the Aerophore.*—Austr. C. & I. Tr. Rev., June 5, 1913; p 321; 1500 w*; 35c.

——— *Liquid Air for Use in Rescue Work in Mines.*—Iron & Coal Tr. Rev., Nov. 28, 1913; p 848; 2000 w*; 35c.

——— *Madison Coal Corporation Exhibition, Illinois.*—Colly. Engr., Dec., 1913; p 275; 5000 w*; 35c.

——— *Modification des Appareils Respiratoires Tissot.* [Modification of the Tissot respiratory apparatus].—L'Echo des Mines, Aug. 7, 1913; p 871; 1200 w; 35c.

———. *Mammoth Copper Co.'s Hospital, Kennett, California.*—E. & M. J., July 12, 1913; p 56; 450 w*; 25c.

———. *New Rescue Hoisting Cage.*—Mg. & Eng. World, Aug. 2, 1913; p 211; 200 w; 10c.

———. *Portable Mine Rescue Telephone.*—E. & M. J., Aug. 9, 1913; p 246; 300 w*; 25c.

——— *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June* 30, 1912.—U. S. Dept. of the Interior; 24 pp.

———. *Shaefer Method of Resuscitation; Prone Pressure Method of Resuscitation of Those Asphyxiated or Who Have Received Electric Shocks.* (Contains abstract from "Resuscitation," by Charles A. Lauffer, M. D.).—Colliery Engr., Aug., 1913; p 53; 1000 w*; 35c.

——— *Zweiter Internationaler Kongress für Rettungswesen und Unfallverhütung in Wien.* [Second international congress for rescue and accident prevention in Vienna].—Zts. Zentral Verbd. Bergbau Betriebsl., Oct. 1, 1913; p 595; 3000 w; 35c.

LABOR; MANAGEMENT; SOCIOLOGICAL

Labor and Management

Balliet, Letson.—*The Intelligent Direction of Mechanical Energy in Mining.*—Mg. & Eng. World, Aug. 16, 1913; p 294; 1300 w; 10c.

Barrett, Anthony.— *Don'ts for Inside Employes.*—Coal Age, July 12, 1913; p 45; 800 w; 20c.

Brown, Ralph D.—*Mine Accidents and Their Relation to Management.*—Coal Age, Nov. 22, 1913; p 760; 1900 w; 20c.

Crocker, W. J.—*Efficiency as Applied to Mining.*—Mg. & Eng. World, June 21, 1913; p 1183; 1200 w; Aug. 16, 1913; p 299; 1900 w; 20c.

Del Mar, Algernon.—*Scientific Manage-*

ment Applied to Gold Mining.—Mg. & Eng. World, Nov. 1, 1913; p 795; 3250 w; 10c.

Douglas, James.—*Principles More Important than Practice in Technical Education.* (Commencement address delivered at Colorado School of Mines).—Quarterly of Colo. Sch. of Mines, July, 1913; pp 10; 25c.

Ellis, Herbert I.—*Labor Conditions at Fairbanks, Alaska.*—E. & M. J., Dec. 13, 1913; p 1111; 650 w; 25c.

Gartrell, H. W.—*Workmen's Compensation Problems.*—M. & S. P., July 19, 1913; p 105; 1000 w; 20c.

Gardner, M. B.—*The Checking of Underground Workmen.* (Paper read before N. Staffordshire Branch Natl. Assn. Coll. Mgrs.; abstract).—Mg. Engg., London, July, 1913; p 138; 2500 w*; 35c.

Günthersberger, J.—*Die Wohnungsfürsorge und Bergarbeiterwohnungen.* [Mine-workers' houses]. — Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 1, 1913; p 446; 5000 w*; Aug. 15, p 492; 7000 w*; 70c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hebbard, James.—*Mine Managers' Certificates.* [Presidential address before Australian Inst. M. E.].—Trans. of the Society, No. 10; 1913; p 41; 34 pp; 75c.

Higgins, Edwin.—*Safety in the Mines of the Iron Ranges.* (Abstract of paper read before Lake Sup. Mg. Inst.).—Mg. & Eng. World, Sept. 13, 1913; p 461; 3500 w; 10c.

Hobson, J. A.—*Gold: Prices and Wages.* 181 pp. $1.25 (book).

Hoffman, Frederick.—*Metal Mine Accidents in British Columbia.*—E. & M. J., Nov. 15, 1913; p 931; 2000 w; 25c.

Hutchins, John Power.—*Traveling in Russia.*—Mg. Mag., Oct., 1913; p 280; 4500 w*; 35c.

King, Rufus.—*American Mining Interests in Central America.*—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

Meguire, K. U.—*Kentucky Mines and Workmen's Compensation.* (Abstract of paper read before Kentucky Mg. Inst.).—Coal Age, June 14, 1913; p 915; 3000 w; 20c. Coal & Coke Opr., June 12, 1913; p 141; 3200 w; 20c.

Morrow, John D. A.—*Coal Mining: United States.*—Bull., Thirteenth Census of U. S., 1910, Bureau of the Census, U. S. Dep. of Commerce; 55 pp.

Page, W. N.—*Coal Miners' Union Conducts Imaginary Strike;* [Making capital out of a supositious strike to boost membership].—Mg. & Eng. World, June 14, 1913; p 1142; 600 w; 10c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 9, 1913; p 241; 2250 w*; Sept. 20, 1913; p 509; 4000 w*; 20c.

Schlesinger, G.—*The Taylor System from a German Viewpoint.* (Extracts from paper presented at joint meeting of Verein Deutscher Ingenieure and Am. Soc. Mech. Engrs.).—Ir. Age, July 10, 1913; p 82; 3000 w; 30c.

Suender, E. H.—*Welfare Work for Mine Workers.* (Paper read before Panther Valley Mg. Inst.).—Coal Age, Dec. 6, 1913; 3200 w*; 20c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 29, 1913; p 963; 2500 w*; 10c.

Wilson, William B.—*Arbitration as a Factor in the Mining Industry.* (Abstract of address delivered before Am. Mg. Cong.).—Bl. Diam., Nov. 22, 1913; p 15; 1800 w; 25c.

Webber, Morton.—*Mine Managers as Valuers.*—Mg. Mag., Aug., 1913; p 137; 2300 w; 35c.

Woodbridge, Dwight E.—*Food Supply for Mining Engineers.*—E. & M. J., Sept. 27, 1913; p 590; 500 w; 25c.

Yeandle, William H.—*Patience and Cheap Labor in Mexican Mining.*—E. & M. J., Dec. 13, 1913; p 1127; 2000 w; 25c.

———. *A Few Suggestions for the Master Mechanic.*—Mg. & Eng. World, June 21, 1913; p 1198; 700 w; 10c.

———. *A Review of the West Virginia [Coal Strike] Inquiry.*—Coal Age, July 5, 1913; p 14; 1200 w; 20c.

———. *An Epidemic of Mine Strikes and Its Cause.* [Editorial].—Mg. & Eng. World, Aug. 23, 1913; p 325; 1000 w; 10c.

——— *Contract Systems in Michigan Copper Mines.*—E. & M. J., Dec. 20, 1913; p 1177; 2500 w; 25c.

——— *Contrôle des Salaires des ouvriers Mineurs du Département du Nord.* [Wages of mine workers in the department of the North, France].—Bull. Soc. Amicale Douai, Sept. 10, 1913; p 595; 200 w; 35c.

——— *Die Bergarbeiterlöhne in Deutschland im 1. Vierteljahre* 1913. [Mine-workers' wages in Germany for the first quarter of 1913].—Glückauf, July 26, 1913; p 1185; 3500 w; 50c.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Discussion of Miners' Compensation Laws.* (Proc. 6th annual meeting Mine Inspectors' Inst.).—Coal Age, Nov. 22, 1913; p 767; 4800 w; Nov. 29, 1913; 5000 w; 40c.

———. *Effect of Centralization on Costs* (Editorial).—E. & M. J., Aug. 2, 1913; p 217; 500 w; 25c.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——— *German Workingmen's Insurance.* (Abstract from German Gov. report).—M. & S. P., Nov. 15, 1913; p 774; 1800 w; 20c.

——— *Illinois Coal Statistics.*—Mg. & Eng. World, Oct. 4, 1913; p 588; 500 w; 10c.

——— *Johannesburg Strike.*—E. & M. J., Sept. 6, 1913; p 434; 600 w; 25c.

———. *Labor Conditions on the Rand.*—Mg. Mag., London, June, 1913; p 401; 750 w; 35c.

———. *Labor Troubles on Michigan Copper Range* (Editorial).—Mg. & Eng. World, Aug. 2, 1913; p 191; 650 w; 10c.

——— *Mine Managers as Valuers.* [Editorial].—Mg. Mag., Oct., 1913; p 258; 1400 w; 35c.

———. *Miners' Phthisis on the Rand.*—Mg. Jnl., London, June 7, 1913; p 545; 2500 w; 35c.

———. *Miners Strike on the Rand.*—E. & M. J., July 12, 1913; p 84; 600 w; 25c.

——— *Mining Immigration and Mine Accidents.* [Editorial].—Mg. & Eng. World, Oct. 18, 1913; p 679; 10c.

———. *No Labor Troubles on the Iron*

Range (Editorial).—Mg. & Eng. World, Aug. 9, 1913; p 240; 300 w; 10c.

——— *Preventing the Stealing of Rich Ore.* (Editorial).—Mg. & Eng. World, Sept. 13, 1913; p 455; 600 w; 10c.

——— *Rates of Wages and Costs of Living at Four Representative Mines on the Rand.*—S. A. Mg. Jnl., Aug. 16, 1913; p 629; 6000 w; 35c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June 30, 1912.*—U. S. Dept. of the Interior; 24 pp.

———. *Safety Rules—Instructions to Foremen* (From Inland Steel Co. Rules).—E. & M. J., July 19, 1913; p 120; 500 w; 25c.

——— *South Dakota Mine Inspector's Report.*—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

——— *Strikes and the Control of the Strike Regions.* [Editorial].—Mg. & Eng. World, Dec. 20, 1913; p 1097; 2000 w; 10c.

——— *To Eliminate Undesirable Labor.* [Editorial].—Mg. & Eng. World, Oct. 25, 1913; p 729; 400 w; 10c.

———. *The Lake Superior Strike.* [Editorial].—M. & S. P., Aug. 2, 1913; p 174; 500 w; 20c.

———. *The Michigan Copper Strike.*—E. & M. J., Aug. 16, 1913; p 301; 3500 w; 25c.

——— *The Mining Industry in South Africa.*—Mg. Jnl., Oct. 25, 1913; p 1005; 2500 w; 35c.

——— *The One-Man Drill.* (Abstract of pamphlet prepared on Lake copper strike by Copper Country Commercial Club).—M. & S. P., Nov. 1, 1913; p 692; 1500 w; 20c.

———. *The Sherman Act* (Editorial).—Coal Age, June 21, 1913; p 966; 600 w; 20c.

———. *The Witwatersrand Strike* (Editorial).—E. & M. J., July 12, 1913; p 81; 400 w; 25c.

———. *Wages in Mexico* (Editorial).—E. & M. J., July 26, 1913; p 177; 1200 w; 25c.

———. *Wastefulness at Power Plants* (From address before Am. Inst. Mg. Engrs.).—Coal Age, June 21, 1913; p 957; 500 w; 20c.

——— *Western Federation on Marquette Range.* [Editorial].—Mg. & Eng. World, Aug. 30, 1913; p 365; 1000 w; 10c.

——— *Why the Lake Copper Strike Will Fail.* [Editorial.]—Mg. & Eng. World, Nov. 15, 1913; p 876; 1800 w; 10c.

———. *Wissenschaftliche Betriebsführungf;* [Scientific management (Das Taylor-System)].—Centralblatt Hütten & Walzwerke, June 15, 1913; p 327; 1700 w; 35c.

———. *Workmen's Compensation and Employer's Insurance in California.*—E. & M. J., June 28, 1913; p 1274; 2000 w; 25c.

——— *Workingmen's Compensation.* [Editorial.]—M. & S. P., Nov. 15, 1913; p 755; 1300 w; 20c.

——— *Workmen's Compensation in Ontario.* [Editorial].—Canadian Mg. Jnl., Dec. 15, 1913; p 773; 2500 w; 35c.

Sociological

Blenkinsop, G. H.—*Ventilation of the Mines of the Rand.* (Paper read before Chem., Met. & Mg. Soc. S. Af.).—S. Af. Mg. Jnl., Sept. 27, 1913; p 92; 2000 w; 35c.

Court, J.—*Miners' Nystagmus.* (Paper read before Midland Inst. Mg., Civil & Mech. Engrs.).—Iron & Coal Trades Rev., Oct. 3, 1913; p 530; 6500 w; 35c.

Droll, W. H.—*Welfare Work in Coal Mining.*—Coal Age, June 21, 1913; p 971; 250 w; 20c.

Gartrell, H. W.—*Workmen's Compensation Problems.*—M. & S. P., July 19, 1913; p 105; 1000 w; 20c.

Günthersberger, J.—*Die Wohnungsfürsorge und Bergarbeiterwohnungen.* [The provision of homes and mine-workers' houses].—Zts. Zentral Verbd. Bergbau Betriebsl., June 15, 1913; p 345; 3500 w; Sept. 15, 1913; p 565; 5000 w*; Oct. 15, 1913; p 644; 6000 w*; $1.05.

Hesse, A. W.—*State Miners' Hospital at Fairmont, W. Va.*—Coal Age, June 14, 1913; p 932; 1500 w*; 20c.

Martell, Paul.—*Die Arbeiterversicherungsgesetze in der russischen Montanindustrie.* [Workmen's insurance laws in the Russian mining industry].—Bergbau, Sept. 18, 1913; p 626; 1500 w; 35c.

Rice, Claude T.—*Mining Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 2, 1913; p 195; 3600 w*; 10c

Shaw, Ira D.—*Welfare Work Among Coal Miners.* (Paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., June 26, 1913; p 187; 3500 w; 20c. Coal Age, July 5, 1913; p 21; 2200 w; 20c.

Spurrell, H. G. F.—*Malaria: Its Effect on Work and Workmen.*—M. & S. P., Dec. 6, 1913; p 8884; 6500 w; 20c.

Suender, E. H.—*Welfare Work for Mine Workers.* (Paper read before Panther Valley Mg. Inst.).—Coal Age, Dec. 6, 1913; 3200 w*; 20c.

———. *Bath House at Cameron Colliery, Shamokin, Pa.*—Coll'y Engr., July, 1913; p 679; 1800 w*; 35c.

———. *Bath House in Emscher Coal Mine, France.*—Mg. & Eng. World, June 21, 1913; p 1181; 400 w; 10c.

——— *Calumet & Hecla Social Service Work.*—E. & M. J., Oct. 11, 1913; p 686; 800 w; 25c.

———. *Coal Mines Operated Under Direction of U. S. Bureau of Mines.*—Mg. & Eng. World, June 21, 1913; p 1195; 2000 w; 10c.

——— *Die Unfallversicherung der Bergarbeiter.* [Accident insurance of mine workers].—Montan-Ztg., Aug. 1, 1913; p 284; 1500 w; 35c.

——— *German Workingmen's Insurance.* (Abstract from German Gov. report).—M. & S. P., Nov. 15, 1913; p 774; 1800 w; 20c.

———. *H. C. Frick Welfare Plans.*—Coal Age, June 21, 1913; p 971; 300 w*; 20c.

———. *Miners' Phthisis on the Rand.*—Mg. Jnl., London, June 7, 1913; p 545; 2500 w; 35c.

——— *Novel Undertaking of the Anaconda Copper Co.*—Mg. & Eng. World, Dec. 20, 1913; p 1115; 1800 w; 10c.

——— *The Connell Colliery Hospital, Sullivan County, Pa.*—Colly. Engr., Nov., 1913; p 201; 4500 w*; 35c.

———. *The Mine-Sanitation Section of the United States Bureau of Mines.* (Bull. U. S. Bur. of Mines).—Mg. & Eng. World, July 12, 1913; p 72; 1100 w; 10c.

———. *The Treadwell Group of Mines, Alaska, in* 1912. (Abstract of annual report).—See under gold.

MINING COSTS

Akin, A. D.—*The Olancho Country, Honduras.*—M. & S. P., July 12, 1913; p 49; 3000 w*; 20c.

Bradley, F. W.—*Plans of the Alaska Juneau Gold Mining Co.*—M. & S. P., Dec. 6, 1913; p 880; 3500 w*; 20c.

Caldecott, W. A., and Powell, O. P.—*The Sand-Filling of Mines on the Rand.*—Jnl. Chem., Met. & Mg. Soc. of S. Af., Sept., 1913; p 119; 15 pp*; 75c.

Emerson, Harrington.—*Efficiency in Coal Mining.* (Paper read before Coal Mg. Inst. of Am.).—Coal Age, Dec. 13, 1913; p 886; 2700 w; 20c.

Eye, C. M.—*Mine Cost Keeping.*—M. & S. P., Aug. 16, 1913; p 261; 2000 w*; 20c.

Gracetti, V. C.—*La Ley Vigente de Tributacion Minera;* [Mine Taxation and Mine Exhaustion].—Ingenieria, May 10, 1913; p 149; 2000 w; May 20, 1913; p 161; 1500 w; (Continued and concluded); 70c.

Grimes, Charles.—*Annual Report of Tom Reed Gold Mines Co., Arizona.*—Mg. & Eng. World, June 21, 1913; p 1197; 1100 w; 10c.

Gudgeon, Cyril W.—*Scheelite Mining in New Zealand.*—Aus. Mg. Stand., Nov. 13, 1913; p 409; 1700 w*; 35c.

Guess, H. A.—*Mining and Mining Methods in the Southeast Missouri Disseminated-Lead District.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec. 1913; p 2749; 20 pp*; 35c.

Honnold, W. L.—*The Witwatersrand Gold Industry in* 1912.—M. & S. P., Aug. 2, 1913; p 182; 1700 w; 20c.

Honnold, W. L.—*The Rand Gold Industry in* 1912. (Abstracted from Michigan Coll. of Mines Alumnus).—Canadian Mg. Jnl., Sept. 15, 1913; p 578; 2200 w; 35c.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian Mg. Jnl., Oct. 15, 1913; p 643; 3000 w*; 35c.

Hornberger, J. B. L.—*Mining Costs.* (Paper read before Am. Mg. Cong.).—Coal Tr. Bull., Nov. 1, 1913; p 50; 3000 w; 25c.

Howard, L. O.—*The Silver King Coalition Mines, Utah.*—S. L. Mg. Rev., Nov. 30, 1913; p 11; 5000 w*; 25c.

Letcher, Owen.—*Rand Conditions and Future Outlook.*—M. & S. P., June 28, 1913; p 977; 3500 w*; 20c.

Kellogg, L. O.—*Stoping Methods at the North Star Mine.*—E. & M. J., Nov. 29, 1913; p 1011; 3000 w*; 25c.

Kellogg, L. O.—*The Magnetite Mines Near Port Henry, N. Y.*—E. & M. J., Nov. 8, 1913; p 863; 4000 w*; 25c.

Livermore, Robert. — *Development and Costs at the Kerr Lake, Ontario.* (Abstract of annual report).—Mg. & Eng. World, Oct. 4, 1913; p 605; 2900 w; 10c.

Loring, W. J.—*Power on Mines.* [Notes on production of gas from wood, cost items].—Mg. Mag., Oct., 1913; p 278; 1600 w; 35c.

Maguire, Don, and Howard, L. O.—*The Romance of a Famous Gold Mine.* [Con. Mercur].—S. L. Mg. Rev., July 15, 1913; 7500 w*; 25c.

Parker, E. W.—*The Costs and Profits in Coal Mining.* (Paper read before Am. Mg. Cong.).—Coal Age, Nov. 1, 1913; p 645; 2900 w; 25c. Colly. Engr., Dec., 1913; p 281; 2500 w; 35c. C. & C. Opr., Oct. 30, 1913; p 579; 3000 w*; 20c.

Perry, O. B.—*The Yukon Gold Co., Y. T.* —(Abstract of annual report).—M. & S. P., June 28, 1913; p 981; 1700 w; 20c.

Ricketts, L. D.—*The Year at Cananea.* (Abstract of annual report Cananea Con. Co.).—M. & S. P., June 14, 1913; p 901; 2300 w*; 20c.

Schimerka, Francis S.—*Leaching Shannon Copper Ores.*—E. & M. J., Dec. 13, 1913; p 1107; 3800 w; 25c.

Schulze-Höing, Bergassessor.—*Die Akkumulatoren Grubenlokomotiven.* [Accumulator mine locomotives].—Technische Blätter, Aug. 31, 1913; p 290; 1600 w*; 35c.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.*—Mg. & Eng. World, Aug. 9, 1913; p 255; 1200 w; 10c

Steele, Heath.—*The Cost of Copper.*—E. & M. J., Aug. 9, 1913; p 231; 7000 w; 25c.

Van Ells, H. T.—*Mining Cost Accounts of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Tait, Peter G.—*Tin Mining in Tasmania.* (Abstract from Mg. & Eng. Rev.).—M. & S. P., Oct. 18, 1913; p 615; 2600 w*; 20c.

Waggaman, Wm. H.—*A Report on the Phosphate Fields of South Carolina.*—Bull. No. 18, Bureau of Soils, U. S. Dep. of Agriculture; 12 pp*.

Webb, H. H.—*Selective Mining in the Gold Fields Mines, S. Africa.*—M. & S. P., Nov. 29, 1913; p 860; 1500 w; 20c.

——— *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exch., Oct., 1913; p 5; 4300 w; 35c.

——— *Camp Bird Mine.* (Abstract from annual report).—E. & M. J., Dec. 27, 1913; p 1222; 500 w; 25c.

———. *Chino Copper Co.'s Second Quarter Report.*—Mg. & Eng. World, Aug. 23, 1913; p 341; 1100 w; 10c.

———. *Comparative Costs of Rand Hoisting Systems.* (Abstract from Jnl. S. Af. Inst. Engrs.).—E. & M. J., June 14, 1913; p 1199; 700 w; 25c.

——— *Cost of Brazilian Iron Ore.*—E. & M. J., June 14, 1913; p 1208; 1100 w; 25c.

———. *Costs and Development at the Ahmeek Mine, Mich.* (Abstract of annual report).—Mg. & Eng. World, June 28, 1913; 1400 w*; 10c.

——— *Costs at the Hollinger Mine, Ontario.*—E. & M. J., Oct. 18, 1913; p 739; 500 w; 25c.

———. *Costs at the Lake View and Star Mines.*—M. & S. P., Aug. 2, 1913; p 181; 250 w*; 20c.

———. *Costs and Profits at Butte Copper Mines.*—Mg. & Eng. World, June 21, 1913; p 1198; 400 w; 10c.

———. *Effect of Centralization on Costs* (Editorial).—E. & M. J., Aug. 2, 1913; p 217; 500 w; 25c.

———. *Efficiency in Underground Drilling.* (Abstract of address before Copper Country Club, Michigan).—M. & S. P., June 28, 1913; p 982; 650 w; 20c.

———. *Goldfield Consolidated Cost Curves.*—E. & M. J., July 26, 1913; p 151; 100 w*; charts, 25c.

———. *Iron Mining in Minnesota.* (Abstract from Bull. 1, Minn. Sch. Mines Exp. Sta.).—E. & M. J., June 28, 1913; p 1295; 1650 w; 25c.

——— *Mine and Mill Costs at the Tomboy Mines, Colorado.*—Mg. & Eng. World, Nov. 15, 1913; p 876; 600 w; 10c.

——— *Mining Costs at the Oroya Black Range Mine, Western Australia.*—M. & S. P., Dec. 13, 1913; p 934; 150 w; 20c.

———. *Mining and Milling Costs at the Alaska-Treadwell.*—E. & M. J., July 19, 1913; p 121; 1500 w; 25c.

——— *Mining and Milling Costs at the Oriental Cons. Mines, China.* (Abstract from company's report).—M. & S. P., Dec. 13, 1913; p 932; 300 w; 20c.

——— *Rates of Wages and Costs of Living at Four Representative Mines on the Rand.*—S. A. Mg. Jnl., Aug. 16, 1913; p 639; 6000 w; 35c.

——— *Ray Con. Copper Co.'s Ninth Quarterly Report.*—Mg. & Eng. World, Nov. 22, 1913; p 922; 900 w; 10c.

———. *The Treadwell Group of Mines, Alaska, in* 1912. (Abstract of annual report).—See under gold.

ACCOUNTS; BOOKKEEPING

Caspaar, Moritz.—*Zur Reform der Montanstatistik;* [Improving Mining Statistics].—Montanistische Rundschau, June 1, 1913; p 513; 3000 w; 35c.

Charlton, W. H.—*American Mine Accounting.* 390 pp. $5 (book).

Crocker, Wm. J.—*Importance of Up-to-Date Mine Accounting.*—Mg. & Eng World, Nov. 8, 1913; p 837; 2500 w; 10c.

D'Arcy, Weatherbe.—*An Engineer's Note Book.*—Mg. Mag., Aug., 1913; p 122; 1000 w*; 35c.

Eye, C. M.—*Mine Cost Keeping.*—M. & S. P., Aug. 16, 1913; p 261; 2000 w*; 20c.

Hornberger, J. B. L.—*Mining Accounting.* (Paper read before Am. Mg. Cong.).—C. & C. Opr., Oct. 30, 1913; p 581; 2500 w; 20c.

Hornblower, J. B. L.—*Coal-Mine Accounting Systems.* (Paper read before Am. Mg. Cong.).—Coal Age, Nov. 1, 1913; p 653; 2600 w; 25c.

Hunter, G. M'I.—*Analysis of Mining Statements.*—Trans. Australian Inst. M. E., No. 10; 1913; p 189; 5 pp*; 75c.

Jüngst, Ernst.—*Zur Methode der Feststellung des Kohlenverbrauchs;* [Methods for determining coal consumption].—Glückauf, May 24, 1913; p 822; 1500 w; 50c.

Maclachlan, M. W.—*A System of Keeping Mine and Mill Accounts, Costs and Metallurgical Records.*—Jnl. Chem., Met. & Mg. Soc. of S. Af., Sept., 1913; p 138; 12 pp*; 75c.

McNeill, J. C.—*An Accounting System for Coal Companies.*—Coal Age, Sept. 20, 1913; p 414; 4300 w*; 20c.

Sawyer, A. H.—*Keeping Personal Accounts.*—E. & M. J., Oct. 11, 1913; p 685; 2500 w*; 25c.

MINES AND MINING (c*).

CHAPTER XV.

PRODUCTION

Abell, O. J.—*Increased Output of Merchant Lake Ore.*—Iron Age, Sept. 4, 1913; p 514; 2000 w; 30c.

Arlt, H.—*Die Mineralschätze Tunisiens.* [The mineral wealth of Tunis].—Glückauf, July 26, 1913; p 1169; 7000 w*; 50c.

Baker, Henry D.—*Modern Methods in Indian Gold Mining.* (U. S. Consular report; abstract).—Mg. & Eng. World, Sept. 27, 1913; 2600 w; 10c.

Ball, Lionel C.—*The Anakie Sapphire Fields.*—Queensland Gov't Mg. Jnl., May 15, 1913; p 233; 5000 w*; 35c.

Ball, V.—*The Coal Fields of India.*—Iron & Coal Tr. Rev., London, July 25, 1913; p 121; 3500 w*; 35c.

Bancroft, Howland.—*The Tin Situation in Bolivia.*—Bull. 81 Am. Inst. Mg. Engrs., Sept., 1913; p 2311; 19 pp*; 35c.

Bartels, Bergassessor.—*Die Lage der Kupferindustrie Russlands im Jahre* 1912. [The status of Russia's copper industry in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 451; 2200 w; $1.50.

Bartels, Bergassessor.—*Russlands Bergwerksindustrie im Jahre* 1911. [Russia's mining industry in 1911].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 443; 3500 w; $1.50.

Bentz, Bergassessor.—*Die Versorgung der Vereinigten Staaten von Nordamerika mit Kali.* [The potash situation in the United States of North America].—Glückauf, Aug. 16, 1913; p 1291; 4500 w; 50c.

Boalich, E. S.—*Mineral Production* (of California) *for* 1912.—Bull. No. 65, Cal. State Mg. Bureau; 64 pp.

Bray, John P.—*New South Wales Mining Extremely Prosperous During* 1912 (From Consular Report).—Mg. & Eng. World, July 26, 1913; p 157; 600 w; 10c.

Brooks, Alfred H.—*Mineral Production of Alaska in* 1912. (From advance chapter Mineral Res. U. S.).—Mg. & Eng. World, Aug. 23, 1913; p 335; 4500 w; 10c.

Buehler, H. A.—*Mineral Output and Resources of Missouri in* 1912.—Mg. & Eng. World, Oct. 25, 1913; p 738; 1800 w; 10c.

Burchard, Ernst F.—*Iron Mining in the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 591; 700 w; 10c.

Burchard, Ernest F.—*The Cement Industry in the United States in* 1912.—Advance chapter from Mineral Resources of U. S.; 24 pp.

Burchard, Ernest F.—*The Production of Fluorspar and Cryolite in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 9 pp*.

Burchard, Ernest F.—*The Production of Iron Ore, Pig Iron and Steel in* 1912.—Advance chapter from Mineral Resources of U. S.; 58 pp*.

Burchard, Ernest F.—*The Stone Industry in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 112 pp*.

Butler, B. S.—*Copper in* 1912. (General Report).—Advance chapter from Mineral Resources of U. S.; 64 pp.

Caspaar, Moritz.—*Zur Reform der Montanstatistik;* [Improving mining statistics].—Montanistische Rundschau, June 1, 1913; p 513; 3000 w; 35c.

Cirkel, Fritz.—*Rapport sur les Dépôts de Fer Chromé des Cantons de l'Est de la Province de Québec.* [Report on the deposits of chromite of the eastern cantons of the province of Quebec].—Canada Dep. of Mines, Mines Branch; 145 pp*.

Coons, A. T.—*The Production of Slate in* 1912.—Adv. chap. Mineral Resources of U. S., U. S. Geol. Surv.; 20 pp. Mg. & Eng. World, Aug. 2, 1913; p 204; 300 w; 10c.

Crocker, W. J.—*Economy in the Machine Shop.*—Mg. & Eng. World, Oct. 4, 1913; p 589; 1900 w; 10c.

Day, David T.—*The Production of Asphalt, Related Bitumens, and Bituminous Rock in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 12 pp.

Day, David T.—*The Production of Petroleum in the United States in* 1912. (Abstract from advance chapter Mineral Resources U. S.).—Mg. & Eng. World, Oct. 11, 1913; 1300 w; 10c.

Day, David T.—*The Production of Platinum and Allied Metals in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 7 pp. Mg. & Eng. World, Oct. 25, 1913; p 742; 1000 w; 10c.

De Hora, M. H.—*Gold Placers of Antioquia, Colombia, S. A.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 16, 1913; p 297; 1000 w*; 10c.

Diller, J. S.—*The Production of Talc and Soapstone in* 1912.—Advance chapter from Mineral Resources of U. S.; 32 pp*. Mg. & Eng. World, Oct. 25, 1913; p 737; 400 w; 10c.

Dünkelberg, Bergassessor. — *Uebersicht über die Entwickelung des schlesischen Berg und Hüttenwesens.* [A review of the development of Silesian mining and metallurgy].—Glückauf, Aug. 30, 1913; p 1358; 4500 w; 50c.

Dunlop, J. P.—*Billion Dollar Product of Smelters and Refineries.* (U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 11, 1913; 1800 w; 10c.

Dunlop, J. P.—*Lead and Zinc in Oklahoma in* 1912. (Advance report U. S. Geol. Survey; abstract).—Mg. & Eng. World, June14,1913; p 1152; 250 w; 10c.

Dunlop, J. P.—*Mineral Production of the Central States in* 1912 (Mineral Res. U. S.).—Mg. & Eng. World, July 19, 1913; p 106; 2000 w; 10c.

Dunlop, J. P.—*Record Metal Production*

*Includes the production of Metals and Metal Ores, Non-Metals, etc.

in Missouri. (Advance report U. S. Geological Survey).—Mg. & Eng. World, June 14, 1913; p 1132; 550 w; 10c.

Dunlop, J. P.—*The Production of Metals and Metallic Ores in* 1911 *and* 1912. (See Gold).

Edwards, Geo. E.—*Development of the Vermilion Iron Range.*—Mg. & Eng. World, Oct. 4, 1913; p 595; 1800 w*; 10c.

Edwards, Geo. E.—*Rapid Development of the Cuyuna Range.*—Mg. & Eng. World, Aug. 23, 1913: 2800 w: 10c.

Flegel, Kurt.—*Die wirtschaftliche Bedeutung der Montanindustrie für die kulturelle und industrielle Entwickelung eines Landes unter besonderer Berücksichtigung des Deutschen Reiches.* [The economic significance of the mining industry on the cultural and industrial development of a country with special reference to the German Empire].—Berg & Hüttenmännische Rundschau, July 5, 1913; p 327; 7000 w*; July 20, 1913; p 251; 6500 w*; 70c.

Gerry, C. N. —*Metal Production of Idaho Larger in* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 216; 250 w; 10c.

Gerry, C. N.—*Precious and Semi-precious Metals in Idaho and Washington in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 46 pp.

Greenwell, George Harold.—*Der Kohlendistrikt von Iherria (Indien) und seine zukünftige Entwickelung;* [The Iharria coal district (India) and its future development]. (Abstract translation from paper read before North of England Inst. Mg. & Mech. Engrs.).—Technische Blatter, July 19, 1913; p 225; 1100 w; 35c.

Guess, H. A.—*Mining and Mining Methods in the Southeast Missouri Disseminated-Lead District.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2749; 20 pp*; 35c.

Haines, H. T.—*First Report of the Utah State Bureau of Immigration, Labor and Statistics for the Years* 1911-1912.—Ninth report of (Utah) State Bureau of Statistics, Salt Lake City; 367 pp*.

Hauptick, E. de.—*Russian Petroleum Industry.*—Mg. Jnl., London, Dec. 6, 1913; p 1171; 1600 w; 35c.

Hauptick, E. de.—*Year's Progress of the Russian Copper Industry.* (Abstract from London Mg. Jnl.).—Mg. & Eng. World, Dec. 27, 1913; p 1159; 1600 w; 10c.

Hayden, H. H.—*The Mineral Production of India in* 1912. (Abstract of India Geol. Surv. report).—Colly. Guard., Nov. 14, 1913; p 1012; 3000 w; 35c.

Heikes, V. C.—*Arizona's Mineral Production in* 1912. (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 842; 4000 w; 10c.

Heikes, V. C.—*Heavy Metal Production Recorded in Arizona During* 1912. (Abstract from U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 248; 900 w; 10c.

Heikes, V. C.—*Montana Increases Value of Metal Production Over* 1911 *by Nearly* $18,000,000 (Abstract from U. S. Geol. Surv. Report).—Mg. & Eng. World, Aug. 9, 1913; p 244; 500 w; 10c.

Heikes, V. C.—*Nevada Metal Output in* 1912 *Shows Increase.* (U. S. Geological Survey; advance report).—Mg. & Eng. World, Aug. 30, 1913; p 379; 700 w; 10c.

Heikes, V. C.—*Precious and Semi-precious Metals in Montana in* 1912—*Mine Production.*—Advance chap. Min. Res. of U. S.; 37 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Nevada in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 49 pp.

Heikes, V. C.—*Precious and Semi-precious Metals in Utah in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 35 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in New Mexico and Texas in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 36 pp.

Henderson, Charles W.—*Precious and Semiprecious Metals in Colorado in* 1912—*Mine Production.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 74 pp.

Hess, Frank L.—*The Production of Antimony, Arsenic, Bismuth and Selenium in* 1912.—Advance chapter from Mineral Resources of U. S.; 13 pp.

Hess, Frank L.—*The Production of Cobalt, Molybdenum, Nickel, Tantalum, Tin, Titanium, Tungsten, Uranium, and Vanadium in* 1912.—Adv. chap. Min. Res. of U. S., Geol. Survey; 77 pp.*

Hewett, D. F.—*The Production of Manganese and Manganiferous Ores in* 1912.—Advance chapter from Mineral Resources of U. S.; 21 pp.

Higgins, Will C.—*Mining Operations in the Alta District, Utah.*—S. L. Mg. Rev., July 30, 1913; p 9; 8750 w*; 25c.

Hill, James H.—*The Occurrence and Production of Barytes in the United States.* (Abstracted from Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 251; 500 w; 10c.

Hill, B.—*The Production of Natural Gas in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 61 pp.

Iron Trade Review.—*The* 1913 *Lake Superior Iron Ore Annual.*—Cleveland, 1913; 71 pp*; $2; (book).

Jüngst, Dr.—*Deutschlands Kohlenverbrauch und seine Feststellung;* [Germany's coal consumption and its determination].—Kohle & Erz, June 30, 1913; p 650; 2500 w; 35c.

Jüngst, Ernst.—*Zur Methode der Feststellung des Kohlenverbrauchs;* [Methods for determining coal consumption].—Glückauf, May 24, 1913; p 822; 1500 w; 50c.

Jüngst, Ernst.—*50 Jahre oberschlesischer Eisenindustrie in statistischer Darstellung.* [Statistical presentation of 50 years of the Upper Silesian iron industry].—Glückauf, Aug. 30, 1913; p 1426; 35,000 w*; 50c.

Kanda, Reiji.—*Bujun Coal Mine in Manchuria.*—M. & S. P., Nov. 29, 1913; p 856; 500 w*; 20c.

Katz, Frank J.—*The Production of Abrasive Materials in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 15 pp.

Katz, Frank J.—*The Production of Feldspar and Quartz in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 11 pp. Am. Fert., Aug. 23, 1913; p 41; 13 pp; 35c. Aug. 9, 1913; p 255; 1200 w; 10c.

Kegel, Bergingenieur.—*Die Bestimmung des Reibungswiderstandes von Gasen in Rohrletungen und Strecken.* [The determination of friction resistance of gases in pipes and galleries].—Glückauf, Sept. 13, 1913; p 1516; 2500 w*; 50c.

Kreuzkam, Dr.—*Die Lage der Braunkohlenindustrie.* [The status of the lignite industry].—Kali, Erz & Kohle, July 5, 1913; p 665; 1200 w; 35c.

Jones, Dwight A.—*The St. Joseph Lead Co.* (Abstract from annual report).—M. & S. P., July 5, 1913; p 16; 3000 w; 20c.

Lalande, De.—*Le Nickel en* 1912. [Nickel in 1912] (From L'Echo des Mines).—Bull. du Commerce, April 12, 1913; p 15; 600 w; 35c.

Larsh, Paul A.—*Lucky Bill Lead-Vanadium Mine.*—E. & M. J., Dec. 13, 1913; p 1103; 3700 w*; 25c.

Livermore, Robert. — *Development and Costs at the Kerr Lake, Ontario.* (Abstract of annual report).—Mg. & Eng. World. Oct. 4, 1913; p 605; 2900 w; 10c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Precious and Semi-precious Metals in the Eastern States in* 1912; *Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McCaskey, H. D.—*Quicksilver in* 1912; *Production and Resources.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 20 pp.

McCaskey, H. D.—*Gold and Silver in* 1912—*General Report.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 55 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 pp.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Middleton, Jefferson.—*Statistics of the Pottery Industry in the United States in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 16 pp.

Middleton, Jefferson. — *The Production, Occurrence and Uses of Fuller's Earth* (Mineral Resources of U. S.).—Mg. & Eng. World, July 19, 1913; p 117; 700 w; 10c.

Middleton, Jefferson, and Hance, J. H.—*Statistics of the Clay-Working Industries in the United States in* 1912, *with Notes on the Occurrence of the Different Varieties of Clay.*—Advance chapter from Mineral Resources of U. S.; 100 pp.

Morrow, John D. A.—*Coal Mining United States.*—Bull. Thirteenth Census of U. S., 1910, Bureau of the Census, U. S. Dep. of Commerce; 55 pp.

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metallurgy in 1912].—Glückauf, Oct. 11, 1913; p 1678; 7000 w; Oct. 18, 1913; p 1723; 4000 w; Oct. 25, 1913; p 1766; 4600 w; $1.50.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Parker, E. W.—*Arkansas as a Mineral Producer.* (Abstract of Survey report).—Mg. & Eng. World, Nov. 8, 1913; p 832; 300 w; 10c.

Parker, E. W.—*Coke Output in the United States in* 1912. (Advance report U. S. Geol. Surv.).—C. & C. Opr., July 3, 1913; p 217; 1800 w; 20c.

Parker, E. W.—*Idaho Gains in Mineral Output in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1116; 250 w; 10c.

Parker, E. W.—*Ohio's Large Mineral Production in* 1912. (Abstract from Min. Res. of U. S., U. S. Geol. Survey).—Mg. & Eng. World, Nov. 29, 1913; p 979; 350 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Parker, Edward W.—*The Manufacture of Coke in* 1912.—Advance chapter from Mineral Resources of U. S.; 64 pp.

Parker, E. W.—*Production of Arizona in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 6, 1913; p 1026; 300 w; 10c.

Parker, Edward W.—*Production of Coal in the United States from* 1814 *to the Close of* 1912.—Table, U. S. Geological Survey.

Parker, Edward W.—*The Production of Anthracite in* 1912.—Adv. chap. Min. Resources of the U. S., U. S. Geol. Surv.; 19 pp.

Parker, Edward W.—*The Production of Coal in* 1912.—Advance chapter from Mineral Resources of U. S.; 219 pp*. Mg. & Eng. World, Sept. 6, 1913; p 425; 700 w; 10c.

Parker, E. W.—*Utah Coal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, July 5, 1913; p 11; 700 w; 10c.

Parker, E. W., and Middleton, Jefferson.—*Clay Products of the United States,* 1912, *with Corresponding Totals for* 1911.—Table, U. S. Geol. Survey.

Phalen, W. C.—*Potash Salts; Summary for* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 36 pp.

Phalen, W. C.—*Sulphur, Pyrite and Sulphuric Acid.*—Am. Fert., Aug. 9, 1913; p 41; 16 pp; 35c.

Phalen, W. C.—*The Production of Bauxite and Aluminum in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 16 pp.

Phalen, W. C.—*The Production of Phosphate Rock in* 1912.—Advance chapter from Mineral Resources of U. S.; 24 pp.

Phalen, W. C.—*The Production of Salt and Bromine in* 1912.—Advance chapter from Mineral Resources of U. S.; 25 pp.

Polzat, C. du.—*A Propos des Phosphates d'Egypte.* [Concerning the phosphates of Egypt].—Echo des Mines, Oct. 9, 1913; p 1027; 500 w; 35c.

Prest, Walter H.—*The Gold Fields of Nova Scotia.*—Indust. Advocate, Halifax, Sept., 1913; p 5; 5000 w; 35c.

Przyborski, M.—*Ungarns Salzproduktion im Jahre* 1911. [Hungary's salt production in 1911].—Montanist. Rundschau, Aug. 1, 1913; p 727; 800 w; 35c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.* (First article).—Mg. & Eng. World, June 21, 1913; p 1179; 2200 w*; 10c.

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Richards, Robert H.— *Great Need of Ore-Dressing Improvements.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Oct. 4, 1913; p 587; 2300 w; 10c.

Robertson, Wm. Fleet.—*Coal Mining in British Columbia.* (Extract from annual report of Minister of Mines, 1912).—Cana-

dian Mg. Jnl., Nov. 1, 1913; p 671; 2200 w; 35c.

Rumberg, Berginspektor.—*Die wirtschaftliche Bedeutung der deutschen Benzolgewinnung, insbesondere für die Motorenindustrie.* [The economic significance of German benzol recovery, especially for the motor industr].—Bergbau, Oct. 16, 1913; p 689; 2000 w*; 35c.

Siebenthal, C. E.—*Lead in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 42 pp.

Siebenthal, C. E.—*Midyear Statement of the Production of Spelter in the United States, Jan.* 1 *to June* 30, 1913.—U. S. Geol. Survey.

Siebenthal, C. E.—*Zinc and Cadmium in* 1912—*General Report.*—Adv. chap. Min. Res. U. S., U. S. Geol. Survey; 53 pp.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.*—Mg. & Eng. World, Aug. 9, 1913; p 255; 1200 w; 10c.

Smart, George.—*High Costs and Low Prices Affect Pig Output.*—Ir. Trade Rev., July 10, 1913; p 57; 600 w; 25c.

Stansbie, J. H.—*Diamond-Cutting Industry in South Africa.* (U. S. Consular Report).—Mg. & Eng. World, Sept. 20, 1913; p 513; 1500 w; 10c.

Stebinger, Eugene.—*The Coal Fields of Montana.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2329; 33 pp*; 35c.

Steele, Heath.—*Copper Prices, Consumption and Supply.*—E. & M. J., Dec. 6, 1913; p 1061; 4000 w*; 25c.

Sterrett, Douglas B.—*Diamonds and Other Gems Mined in the United States* (From advance chap. Mineral Resources of U. S.).—M. & S. P., July 19, 1913; p 94; 500 w; 20c.

Sterrett, Douglas B.—*Production of Gems and Precious Stones in the United States in* 1912. (Abstract from Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, July 12, 1913; p 65; 800 w; 10c.

Sterrett, Douglas B.—*The Production of Mica in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 15 pp.

Stone, Ralph W.—*The Gypsum Industry in* 1912.—Advance chapter from Mineral Resources of U. S.; 15 pp.

Stone, Ralph W.—*The Production of Lime in* 1912.—Advance chapter from Mineral Resources of U. S.; 20 pp.

Stone, Ralph W.—*The Production of Sand and Gravel in* 1912.—Advance chapter of Mineral Resources of U. S.; 18 pp.

Stopnewitsch, A.—*Die Erdöl-Industrie zu Grosny,* 1912. [The petroleum industry at Grosny, Russia, 1912].—Zts. Internat. Vereines Bohringenieure, Nov. 15, 1913; p 257; 900 w; 35c.

Storms, W. H.—*Sixty Years of Mining in California.*—Mg. & Eng. World, Aug. 2, 1913; p 213; 2200 w; 10c.

Tanasescu, J., and Porucik, T.—*Die Statistik der rumänischen Bergwerksprodukte: Erdöl, Erdgas, Kohle und Salz;* [Statistics of the Roumanian mine products: Petroleum, natural gas, coal and salt] (From l'Annuaire de l'Institut Géologique de Roumanie).—Zts. Internat. Vereines Bohringenieure, June 15, 1913; p 133; 2000 w; 35c.

Thom, W. T.—*Record Mineral Production of the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Walker, T. L.—*Rapport sur les Minerais de Tungstene du Canada.* [Report on the tungsten ores of Canada].—Canada Dep. of Mines, Mines Branch; 58 pp*.

Watson, Thomas L.—*Mineral Production of Virginia in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 928; 600 w; 10c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14, 1913; p 898; 3500 w*; 20c.

Weston, Eustace.—*Gold Production in Relation to Humanity.*—Jnl. Chem. Met. & Mg. Soc. S. Af., April, 1913; p 472; 8000 w; 50c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [German's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Wilson, H. W.—*Mexico's Oil Industry.* (British Consular Report).—Petr. Wld., Aug., 1913; p 372; 1800 w; 35c.

Wolf, J. H. G.—*California Oil Production for* 1913.—M. & S. P., Oct. 11, 1913; p 579; 1100 w; 20c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res., U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*Precious and Semi-precious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

Yale, Charles G., and Gale, Hoyt S.—*The Production of Magnesite in* 1912.—Advance chapter from Mineral Resources of U. S.; 9 pp.

———. *Annual Report of the Director of the Mint for the Fiscal Year Ended June* 30, 1912, *and Also Report on the Production of the Precious Metals in the Calendar Year* 1911.—Document No. 2671, U. S. Treasury Dep.; 317 pp.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarized by E. Jacobs).—B. C. Mg. Excha., July, 1913; p 5; 8 pp*; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

——— *Austrian Mining in* 1912.—Mg. Jnl., London, Oct. 4, 1913; p 935; 2300 w; 35c.

———. *Australian Tin Production.*—Mg. Jnl., London, June 7, 1913; p 547; 1500 w; 35c.

——— *A Year's Development of the Trinidad Petroleum Fields.*—Petr. Wld., London, Nov., 1913; p 523; 2500 w; 35c.

——— *Bergbau und Eisenindustrie Schwedens im Jahre,* 1912. [Mining and iron industry of Sweden in 1912].—Glückauf, Oct. 25, 1913; p 1772; 4500 w; 50c.

———. *Bericht des Vorstandes des Zentralvereins der Bergwerksbesitzer Oesterreichs;* [Report of the Committee of the Austrian Coal Producers].—Montanistische Rundschau, June 1, 1913; p 493; 21 pp*; 35c.

———. *Bericht des Rheinisch-Westfälischen Kohlen-Syndikats über das Geschäftsjahr* 1912; [Abstract report of the

Rhine-Westphalia Coal Syndicate for 1912]. —Glückauf, May 24, 1913; p 825; 2500 w; 50c.

——— *Big Increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 28, 1913; p 468; 700 w; 10c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau). —Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *California's Varied Mineral Production.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 890; 500 w; 10c.

——— *China as a Tin Producer.*—M. & S. P., Oct. 25, 1913; p 646; 500 w; 20c.

———. *Chino Copper Co.'s Second Quarter Report.*—Mg. & Eng. World, Aug. 23, 1913; p 341; 1100 w; 10c.

——— *Conditions in Rhodesia.*—Mg. Jnl., London, July 26, 1913; p 705; 2500 w; 35c.

———. *Copper Production in May.*—Mg. & Eng. World, June 21, 1913; p 1182; 250 w; 10c.

——— *Copper Stocks Decrease in September.*—Mg. & Eng. World, Oct. 11, 1913; p 636; 400 w; 10c.

———. *Costs and Development at the Ahmeek Mine, Mich.* (Abstract of annual report).—Mg. & Eng. World, June 28, 1913; 1400 w*; 10c.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

———. *Der Bergbau in China, Konsularbezirk Shanghei im Jahre* 1911; [Mining in China, Shanghai consular district, in 1911] (First part).—Montan-Ztg., June 15, 1913; p 225; 3500 w; 35c.

——— *Der Bergbau Japans.* [Japan's mining].—Montan & Metallindustrie-Ztg., Sept. 21, 1913; p 4; 600 w; 35c.

——— *Die belgische Bergwerksindustrie im Jahre* 1912. [The Belgian mining industry in 1912].—Glückauf, Nov. 20, 1913; p 1981; 2400 w; 50c.

——— *Die Berg und Hüttenwerksproduktion Oesterreichs im Jahre* 1912. [The mining and metallurgical production of Austria in 1912].—Montanistische Rundschau, Oct. 16, 1913; p 981; 2500 w; 35c.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die Bergwerksindustrie und Bergverwaltung Preussens im Jahre* 1912. [Prussia's mining industry and mine administration in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 403; 20,000 w; $1.50.

——— *Die Bergwerksindustrie in Frankreich und Algier in den Jahren* 1910 *und* 1911. [The mining industry in France and Algeria in 1910 and 1911]. (From report of Minister of Public Works, France).—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3; 1913; p 382; 4500 w; $1.50.

——— *Die Eisenindustrie Italiens.* [Italy's iron industry].—Berg & Hüttenmännische Rundschau, Sept. 5, 1913; p 298; 2800 w; 35c.

——— *Die Eisen und Metallindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911]. (See Gold).

——— *Die Eisen und Maschinenindustrie Italiens im Jahre* 1912. [The iron and machinery industry of Italy in 1912].—Montan & Metallindustrie-Ztg., Aug. 10, 1913; p 5; 100 w; 35c.

——— *Die Eisenindustrie in Italien.* [The iron industry in Italy].—Montan-Ztg., Sept. 1, 1913; p 326; 800 w; 35c.

——— *Die Entwickelung der niederrheinisch-westfälischen Steinkohlenzechen im 1. Vierteljahr* 1913. [The development of the lower-Rhein-Westphalian coal mines in the first quarter of 1913].—Glückauf, June 28, 1913; p 1023; 4000 w; 50c.

——— *Die Erdölfelder von Birma.* [The oil fields of Burma].—Chemiker & Tech.-Ztg., Nov. 1, 1913; p 163; 1100 w; Nov. 15, 1913; p 169; 1000 w*; 70c.

——— *Die Erdölindustrie Mexicos* 1912. [The petroleum industry of Mexico in 1912] (Translation into German from Bull. of Tiflis Phys. Observatory, Tiflis, Russia).— Zts. Internat. Vereines Bohringenieure, Sept. 1, 1913; p 201; 800 w; 35c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

———. *Die Kaukasische Petroleum-Industrie.* [The petroleum industry of the Caucasus] (From Oil & Couleur Trades Jnl.).—Chemiker & Tech.-Ztg., Sept. 1, 1913; p 130; 1200 w; 35c.

——— *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15, 1913; p 346; 800 w; 35c.

———. *Die oberschlesische Bergwerks- und Hüttenindustrie im Jahre* 1912; [The Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

——— *Die Petroleum-Weltproduction des Jahres* 1912 *unter besonderer Berücksichtigung der Vereinigten Staaten.* [The world's petroleum production in 1912, with special reference to the United States].— Petroleum, Nov. 5, 1913; p 149; 6000 w; 60c.

——— *Die Petroleumindustrie in Rumänien im Jahre* 1912. [The petroleum industry in Roumania in 1912].—Montan-Ztg., Oct. 1, 1913; p 364; 4000 w; 35c.

——— *Die rheinische Braunkohlenindustrie im Jahre* 1912. [The Rhenish lignite industry in 1912].—Bergwerks-Ztg., July 29, 1913; p 1; 1600 w; 35c.

——— *Die rumänische Petroleumindustrie im Jahre* 1912. [The Roumanian petroleum industry in 1912].—Bergwerks-Ztg., Aug. 2, 1913; p 1; 1200 w; 35c.

——— *Die rumänische Petroleum-Industrie.* [The Roumanian petroleum industry] (Translated from Le Pétrole).—Chemiker & Tech.-Ztg., Nov. 1, 1913; p 166; 500 w; 35c.

——— *Die Versorgung Deutschlands mit Eisenerzen.* [Providing Germany with iron ores].—Centralblatt Hütten & Walzwerke, Oct. 5, 1913; p 549; 2000 w; 35c.

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——— *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co.,

A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

———. *Feldspar Output in the United States in* 1912. (Advance report of U. S. Geol. Surv.).—Mg. & Eng. World, June 28, 1913; p 1234; 325 w; 10c.

———. *Finished Steel Production in* 1912. (Abstracted from Am. Iron & Steel Assn. Report).—E. & M. J., Aug. 23, 1913; p 373: 700 w: 25c.

———. *Geschäftsbericht des Kali-Syndikats, Leopold-Stassfurt, über das Jahr* 1912. [Business report of the potash syndicate, Leopold-Stassfurt, through the year 1912].—Glückauf, June 21, 1913; p 988; 1500 w; 50c.

——— *Gewinnung der Bergwerke des Preussischen Staats im Jahre* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *Gold in Surinam, Dutch Guiana.* —M. & S. P., Dec. 27, 1913; p 1201; 500 w; 20c.

———. *Illinois Coal Statistics.*—Mg. & Eng. World, Oct. 4, 1913; p 588; 500 w; 10c.

——— *Illinois as a Mineral Producer.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 450 w; 10c.

——— *Indian Mines in* 1912. (Abstract from India Geol. Surv. report).—Mg. Jnl., Oct. 18, 1913; p 982; 1600 w; 35c.

——— *India's Mineral Production.* (Abstract of India Geol. Surv. report).—Mg. Wld. & Engg. Rec., London, Sept. 27, 1913; p 376; 1800 w; 35c.

——— *Iron and Steel Production of Italy.*—E. & M. J., Dec. 27, 1913; p 1211; 500 w; 25c.

——— *Italian Mineral and Metallurgical Industries in* 1912. (Abstract from Revista del Servizio Minerario).—Iron & Coal Trade Rev., Dec. 5, 1913; p 875; 1500 w; 35c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—Revista Minera, Sept. 1, 1913; p 421; 1500 w; 35c.

———. *La Production des Mines de Fer de Normandie en* 1912. [The production of the iron mines of Normandie in 1912] (From L'Echo des Mines).—Bull. Soc. Amicale Douai, May 25, 1913; p 312; 450 w; 35c.

——— *La Production Houillère Française en* 1912. [The production of coal in France in 1912].—Bull. Soc. Amicale Douai, Aug. 25, 1913; p 577; 200 w; 35c.

———. *La Production du Manganèse dans le Monde.* [The world's production of manganese].—Revue Pratiq. Ind's Metlgq., Aug., 1913; p 7; 500 w; 40c.

——— *La Production Sidérurgique de la France en* 1912. [The iron and steel production of France in 1912].—Bull. Soc. Amicale Douai, Sept. 10, 1913; p 604; 300 w; 35c.

——— *Le Pétrole en Roumanie.* [Petroleum in Roumania—Production in 1911 and 1912]. (From report of the Belgian Legation at Bucharest).—Le Pétrole, June 20, 1913; p 3; 700 w; 35c.

———. *Lead and Zinc in Kansas in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1197; 200 w; 10c.

———. *Leading Copper Producers in July.*—Mg. & Eng. World, Aug. 23, 1913; p 344: 500 w; 10c.

——— *Les Pyrites.* [Pyrites].—Le Phosphate, Sept. 15, 1913; p 877; 1200 w; 35c.

——— *L'industria del ferro in Italia.* [The iron industry in Italy] (Translated from Nachtrichten für Handel & Industrie).—Metallurgia Ital., Sept. 30, 1913; p 640; 1800 w; 35c.

——— *L'industria siderurgica della Russia nel* 1912. [Russia's iron industry in 1912] (Translated from Stahl & Eisen).—Metallurgia Ital., Sept. 30, 1913; p 638; 500 w; 35c.

——— *L'Industrie de Pétrole en Roumanie.* [The petroleum industry in Roumania—Statistics for the first quarter of 1913].—Le Petrole, July 5, 1913; p 3; 500 w; 35c.

——— *L'Industrie du Pétrole en Roumanie.* [The petroleum industry in Roumania] (Abstract from a report of the Belgian legation at Bucharest).—Le Pétrole, Aug., 1913; p 1; 2300 w; 35c.

——— *L'Industrie Minérale en France Pendant L'Année* 1911. [The mineral industry of France during 1911]. (Extract from Statistics of the Mineral Industry, France).—Bull. Soc. Amicale Douai, July 25, 1913; p 496; 1600 w; 35c

——— *Magnesite Production of California.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 6, 1913; p 421; 750 w; 10c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c.

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

———. *Mica: Its Production in the United States and Its Varied Uses.* (Advance report U. S. Geological Survey; abstract).—Mg. & Eng. World, June 14, 1913; p 1150; 1100 w; 10c.

——— *Michigan Shows Increased Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1147; 650 w; 10c.

——— *Mine Production of Colorado in* 1912; (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

———. *Mineral Industry in California in* 1912. (Report of California State Mining Bureau; abstract).—Mg. & Eng. World, July 5, 1913; p 8; 600 w; 10c.

———. *Mineral and Metal Trade of China in* 1912.—Mg. Jnl., London, July 19, 1913; 1300 w; 35c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report U. S. Geol. Surv.)—M. & S. P., Dec. 13, 1913; p 930; 200 w; 20c.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 10c.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *Mineral Production of New Zealand in* 1912.—E. & M. J., Dec. 6, 1913; p 1116; 300 w; 25c.

———. *Mining in Malaya in* 1912. (Report of the Warden of Mines; abstract).—Mg. World. & Engg. Rec., London, June 14, 1913; p 786; 1600 w; 35c.

———. *Mining Ore by the Million Tons;* [Tonnages of gold, silver, copper and lead ore mined by certain large concerns in United States].—M. & S. P., June 14, 1913; 500 w; 20c.

———. *Mining and the Canadian Northern Railroad.*—Can. Mg. Jnl., June 1, 1913; p 330; 3500 w*; 35c.

——— *Mining Operations in Montana in* 1913 *Greatest in State's History.*—Mg. & Eng. World, Dec. 20, 1913; p 1109; 650 w; 10c.

——— *Mining in Sweden in* 1912. (U. S. Consular report).—Mg. & Eng. World, Dec. 27, 1913; p 1152; 300 w; 10c.

——— *Mining in Victoria in* 1912.—Mg. Jnl., London, Nov. 29, 1913; p 1129; 1200 w; 35c.

——— *Mining in Tasmania in* 1912.—Mg. Jnl., London, Nov. 15, 1913; p 1075; 1700 w; 35c.

——— *Missouri, Largest Producer of Barytes in the United States.*—Mg. & Eng. World, Sept. 13, 1913; p 475; 500 w; 10c.

——— *Missouri's Mineral Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1143; 500 w; 10c.

——— *Montana's Metal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

——— *New Mexico Nearly Doubles Output in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 20, 1913; p 1114; 200 w; 10c.

———. *New South Wales Mineral Production.*—Austr. Mg. Stand., May 15, 1913; p 399; 1000 w; 35c.

———. *Oil Production in Peru.* (Abstract from Peru Today).—M. & S. P., Aug. 2, 1913; p 181; 250 w; 20c.

——— *Ontario Mineral Production.* (Abstract from Ontario Bur. of Mines report).—E. & M. J., Dec. 13, 1913; p 1129; 700 w; 25c.

———. *Petroleum Production in* 1912 *Greatest in History.*—Mg. & Eng. World, July 26, 1913; p 166; 400 w; 10c.

——— *Phosphate Production in the United States in* 1912. (Advance chapter from Min. Res. U. S.).—Mg. & Eng. World, Sept. 20, 1913; p 512; 450 w; 10c.

———. *Pig-Iron Production in* 1913.—E. & M. J., Aug. 9, 1913; p 274; 600 w; 25c.

———. *Potash Importations Nearly* $15,000,000 *in* 1912. (Abstract from Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 254; 300 w; 10c.

——— *Production of Asbestos in the United States in* 1912. (U. S. Geol. Surv. advance report; abstract).—Mg. & Eng. World, Oct. 11, 1913; p 648; 400 w; 10c.

——— *Produktion der Bergwerke und Salinen Preussens im Jahre* 1912. [Production of Prussia's mines and salt works in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, 1st Statistical Number, 1913; p. 1; 40 pp; $1.50.

——— *Production of the Leading Coppers in August.*—Mg. & Eng. World, Sept. 27, 1913; 300 w; 10c.

——— *Production Houillère du Pas-de-Calais et du Nord.* [Coal production of the departments of Pas-de-Calais and Nord, France].—Bull. Soc. Amicale Douai, Aug. 10, 1913; p 534; 1200 w; 25c.

———. *Production Houillère Française en* 1912. [The coal production of France in 1912].—Bull. Soc. Amicale Douai, May 25, 1913; p 315; 100 w (table); 35c.

———. *Production of Lead in the United States in* 1912. [Editorial].—E. & M. J., Aug. 16, 1913; p 319; 700 w; 25c.

———. *Production and Importation of Graphite in United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1196; 550 w; 10c.

———. *Production and Use of Magnesite.*—E. & M. J., Sept. 6, 1913; p 438; 400 w; 25c.

———. *Production of Aluminum in United States and Its Many Uses.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1182; 1000 w; 10c.

———. *Production of Pig Iron in the United States in First Half of* 1913.—Iron Tr. Rev., Aug. 7, 1913; p 241; 25c.

———. *Production of Secondary Metals in* 1912. (Advance report of U. S. Geol. Surv.).—M. & S. P., June 28, 1913; p 990; 1400 w; 20c.

——— *Prussian Mining in* 1912.—Mg. Jnl., London, Dec. 6, 1913; p 1153; 2200 w; 35c.

———. *Radium Production in Australia.*—Mg. Jnl., London, Nov. 29, 1913; p 1134; 2000 w; 35c.

——— *Rapport des Opérations Minières dans la Province de Québec Durant l'Année* 1912. [Report on the mining operations in the Province of Quebec during the year 1912].—Bureau of Mines, Department of Colonization, Mines and Fisheries, Province of Quebec, Canada: 260 pp*.

——— *Report on Mining Operations in the Province of Quebec During the Year* 1912.—Dep. of Colonization, Mines & Fisheries, Quebec, Canada; 241 pp*.

———. *Review of Mining Activities in New Mexico During* 1912.—Mg. & Eng. World, Aug. 2, 1913; p 215; 600 w; 10c.

——— *Siziliens Schwefelproduktion.* [Sicily's sulphur production].—Kunstdünger-Industrie, Sept. 15, 1913; p 309; 300 w; 35c.

———. *South Dakota Mine Inspector's Report.*—Mg. & Eng. World, Nov. 15, 1913; p 880; 600 w; 10c.

———. *Spelter Production in the United States First Half* 1912. (Report of U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 23, 1913; p 344; 1300 w; 10c.

———. *Statistik der Naphthaindustrie in Galizien im Jahre* 1912; [Statistics of the naphtha industry in Galicia in 1912].—Petroleum, May 7, 1913; p 995; 1000 w; 60c.

——— *Surplus Copper Stocks Show Increase in November.*—Mg. & Eng. World, Dec. 13, 1913; p 1072; 500 w; 10c.

——— *Tasmania Mineral Output in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 934; 100 w; 10c.

——— *The Coal Industry of the World.*—Mg. Jnl., London, Sept. 27, 1913; p 929; 2000 w; 35c.

——— *The Copper Situation.* [Editorial].—M. & S. P., Oct. 25, 1913; p 639; 1000 w; 20c.

———. *The Half Year's* (1913) *Pig Iron Production.* (From Am. Iron & Steel Inst.).—Mg. & Eng. World, Aug. 16, 1913; p 304; 250 w; 10c.

———. *The Mineral Resources of Formosa.*—Jnl. Royal Soc. Arts, Aug. 1, 1913; p 865; 600 w; 35c.

——— *The Mining Industry in South Africa.*—Mg. Jnl., London, Oct. 25, 1913; p 1005; 2500 w; 35c.

———. *The Phosphate Industry of Algiers.*—Am. Fert., June 28, 1913; p 44; 1500 w; 35c.

——— *The Production and Consumption of Chemical Fertilizers in the World.* (Abstract from Publication of Agricultural Intelligence & Plant Diseases of the Internat. Inst. of Agriculture, Rome).—E. & M. J., Oct. 25, 1913; p 776; 500 w; 25c.

———. *The Production of Copper in 1912.*—E. & M. J., June 28, 1913; p 1279; 1000 w; 25c.

———. *The Prosperity of the Federated Malay States.*—Mg. Jnl., London, June 14, 1913; p 567; 1700 w; 35c.

———. *The Russian Coal Syndicate "Prodoogol."*—I. & C. Tr. Rev., June 27, 1913; p 1047; 2300 w; 35c.

———. *The St. Joseph Lead Co.* (Abstract of annual report).—E. & M. J., June 14, 1913; p 1181; 1200 w; 25c.

———. *Wyoming Coal Production for 1912.*—Mg. & Eng. World, July 26, 1913; p 164; 350 w; 10c.

MILL AND MILLING.

CHAPTER XVI.

SAMPLING

Brogdon, J. S.—*The Sampling of Fertilizers.*—Am. Fert., June 28, 1913; p 25; 1800 w*; 35c.

Davenport, L. D.—*Automatic Sand Sampler.*—E. & M. J., July 12, 1913; p 69; 300 w*; 25c.

Dures, Robert.—*Notes on the Assay of Mine Samples.*—Jnl. Chem., Met. & Mg. Soc. S. Af., June, 1913; p 608; 2700 w; 65c.

Fleming, Wm. R.—*The Determination of Oxygen in Iron and Steel.*—Ir. Tr. Rev., July 17, 1913; p 126; 3500 w*; 25c.

Lejeune, Arthur S.—*Mine Sampling and Ore Valuation, Witwatersrand.*—S. Af. Mg. Jnl., May 10, 1913; p 263; 2500 w; June 7, 1913; p 380; 1000 w; June 21, 1913; p 439; 1200 w*; $1.05.

Merton, A. M.—*Specifications and Tests for Zinc Dust.*—Mg. & Eng. World, June 28, 1913; p 1227; 2400 w; 10c.

Nissenson, Dir.—*Bleierzbemusterung.* [Sampling of lead ore] (Abstracts of paper read before the Soc. of German Chemists).—Chemiker-Ztg., Sept. 20, 1913; p 1136; 400 w; 35c.

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver, Platinum, and the Platinum Group, Metals in Ores, Bullions and Products.* 460 pp. $4.50 (book).

Thompson, H. N., and Sicka, L. T.—*Tooele Plant of International Smelting Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 16, 1913; p 291; 3000 w; 10c.

REDUCTION: CRUSHING, GRINDING, ETC.

Additon, A. Sydney.—*Underestimating the Cost of Milling Plants.*—M. & S. P., July 26, 1913; p 138; 6000 w; 20c.

Baker, Henry D.—*Modern Methods in Indian Gold Mining.* (U. S. Consular report; abstract).—Mg. & Eng. World, Sept. 27, 1913; 2600 w; 10c.

Bernewitz, M. W. von.—*The Berrill Cam.*—M. & S. P., June 28, 1913; p 995; 800 w*; 20c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice, 1910 to 1913.*—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Caetani, Gelasio.—*General Principles of Mill Design.*—Mg. Mag., London, June, 1913; p 435; 5500 w*; 35c.

Caldecott, W. A.—*Weight of Tube Mill Pebble Loads* (From Jnl. Chem., Met. & Mg. Soc., S. Afr., Feb., 1913).—Met. & Chem. Eng., July, 1913; p 417; 500 w; 35c.

Carter, H. F.—*The 250-Ton Cyaniding mill of the Cia. Beneficiadora de Pozos at Pozos, Guanajuato, Mexico.* (Trans. Mex. Inst. Mg. & Met.).—Mex. Mg. Jnl., June, 1913; p 285; 3000 w; 25c

Cole, David.—*Pebble Lining for Hardinge Mills.*—E. & M. J., Nov. 15, 1913; p 927; 600 w*; 25c.

Collins, J. H.—*Black Tin and White Tin.* (Abstract from Mining World).—Malayan Tin & R. Jnl., Oct. 20, 1913; p 33; 2000 w; 35c.

Del Mar, Algernon.—*Requirements of Small Cyanide Mills.*—E. & M. J., Oct. 25, 1913; p 769; 1700 w*; 25c.

Denny, James J.—*Desulphurizing Silver Ores at Cobalt, Ont.*—M. & S. P., Sept. 27, 1913; p 484; 5000 w*; 20c.

Diller, J. S.—*The Production of Talc and Soapstone in 1912.*—Washington, D. C.; Advance chapter Min. Res. of U. S. for 1912; 32 pp*.

Franke, Robert.—*Hardinge Mills vs. Chilean Mills.* (Trans. Am. Inst. Mg. Engrs.; abstract).—M. & S. P., Aug. 16, 1913; p 223; 5000 w; 20c. E. & M. J., Sept. 13, 1913; p 493; 2600 w; 25c.

Garrison, F. Lynwood.—*Agricola: An Appreciation.*—M. & S. P., Aug. 9, 1913; p 218; 5500 w*; 20c.

Gascoyne, Rowland.—*Stamps vs. Tube Mills on the Rand.*—Mg. & Eng. World, June 21, 1913; p 1194; 850 w; 10c.

Goodale, Stephen L.—*Clear Creek and Gilpin County Notes, Colorado.*—E. & M. J., Aug. 2, 1913; p 196; 2000 w*; 25c.

Goodale, Stephen L.—*Mill Physiology.*—Met. & Chem. Engr., Oct., 1913; p 556; 2700 w; 35c.

Goodale, Stephen L.—*The Argo Cyanide Mill at Idaho Springs.*—E. & M. J., Aug. 30, 1913; p 385; 3300 w*; 25c.

Hebbard, James.—*Evolution of Minerals Separation Process on Central Mine, Australia.*—Trans. Aus. Inst. M. E., No. 10; 1913; 88 pp*; 75c.

Hetzel, F. W.—*Coke Crushing and Screening Plants.*—Coal Age, June 7, 1913; p 876; 1500 w*; 20c.

Hillman, Walter.—*Ueber Golderzbereitung.* [The treatment of gold ores] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug 30, 1913 p 689; 22,500 w*; 50c.

Holthoff, H. C.—*Corrugated Roll Shells.*—E. & M. J., June 28, 1913; p 1302; 700 w; 25c.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian Mg. Jnl., Oct. 15, 1913; p 643; 3000 w*; 35c.

Howard, L. O.—*Cyaniding on the West Dip, Mercer, Utah.*—S. L. Mg. Rev., Sept. 30, 1913; p 13; 3000 w; 25c.

Kahr, Max.—*Neuere maschinentechnische Anlagen im Zinkhüttenbetrieb.* [Recent mechanical equipment in the metallurgy of zinc].—Metall & Erz, Nov. 22, 1913; p 895; 4000 w*; 50c.

King, Rufus.—*American Mining Interests*

in Central America.—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

Klopstock, Paul.—*The Kennedy Mining District, Nevada.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 12, 1913; p 63; 3000 w; 10c.

Lang, Herbert.—*Building a Reduction Plant.*—M. & S. P., July 5, 1913; p 4; 8000 w; 20c.

Letcher, Owen.—*New Treatment Plants in Rhodesia.*—M. & S. P., Nov. 15, 1913; p 761; 4000 w*; 20c.

Louvrier, Francis.—*A New Type of Electrical Furnace for the Reduction of Ores.*—Met. & Chem. Engg., Dec., 1913; p 710; 4300 w*; 35c.

McDonald, William.—*Vacuum Filtration at the Waihi Mine, South Africa.* (Abstract from Jnl. Chem., Met. & Mg. Soc. S. Af.).—M. & S. P., Oct. 18, 1913; p 617; 1000 w*; 20c.

Megraw, Herbert A.—*Grinding Ores for Cyanidation.*—E. & M. J., Nov. 1, 1913; p 821; 4500 w; Nov. 15, 1913; p 917; 5000 w*; 50c.

Megraw, Herbert A.—*The Black Oak Cyanide Plant, California.*—E. & M. J., June 14, 1913; p 1179; 2500 w*; 25c.

Megraw, Herbert A.—*The Gold Road Cyanide Mill, Arizona.*—E. & M. J., July 5, 1913; p 3; 3000 w*; 25c.

Maguire, Don, and Howard, L. O.—*The Romance of a Famous Gold Mine.* [Con. Mercur].—S. L. Mg. Rev., July 15, 1913; 7500 w*; 25c.

Merton, A. M.—*Mill Construction and Estimates of Cost.*—Mg. & Eng. World, Oct. 11, 1913; p 689; 1900 w; Oct. 18, 1913; p 687; 2600 w; 20c.

Merton, A. M.—*Selection and Operation of Tube Mills.*—Mg. & Eng. World, June 14, 1913; 3500 w*; 10c.

Merton, A. M.—*The Use of Lime in Cyanide Work.*—Mg. Sci., Sept., 1913; p 154; 4000 w*; 35c.

Nason, S. L.—*Witherbee-Sherman No. 3 Magnetic Mill* (New York).—E. & M. J., Nov. 22, 1913; p 959; 1900 w*; 25c.

Northey, George V.—*Concentration of Cinnabar Ores.*—E. & M. J., Oct. 25, 1913; p 783; 900 w*; 25c.

Parmelee, H. C.—*Cyanide Practice in the Black Hills, South Dakota.*—Met. & Chem. Eng., July, 1913; p 395; 6000 w; Aug., 1913; p 435; 4500 w; 70c.

Peterson, Peter E.—*Copper Leaching at Butte, Mont.*—Mg. & Eng. World, Sept. 6, 1913; p 423; 2600 w*; 10c.

Purcell, M. E.—*Surface Ore-Handling Arrangement at Rossland, B. C.* (Abstract of paper read before Spokane Sec. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, June 28, 1913; p 1230; 10c.

Rácz, Karl v.—*Kritische Bemerkungen über Golderzaufbereitungs - Einrichtungen und Methoden.* [Critical remarks on equipment and methods for the treatment of gold ores].—Montan-Ztg., Nov. 15, 1913; p 424; 600 w; 35c.

Read, Thomas T.—*Mining by Wholesale.* [Description of quarry and crushing plant of the Thompkins Cove Stone Co., New York].—M. & S. P., Sept. 6, 1913; p 368; 3500 w*; 20c.

Rice, Claude T.—*Milling in Southwestern Missouri.*—E. & M. J., June 28, 1913; p 1283; 5000 w*; July 5, 1913; p 7; 7000 w*; 50c.

Rice, Claude T.—*Huntington Mills and Their Operation.*—E. & M. J., Aug. 2, 1913; p 215; 800 w*; 25c.

Rodgers, C. Earl.—*The Motherlode Mill, Salmo, B. C.*—E. & M. J., Sept. 20, 1913; p 529; 3800 w*; 25c.

Schrader, Erich J.—*Slow-Speed Chilean Mill Data.*—M. & S. P., July 26, 1913; p 136; 900 w; 20c.

Seeber, R. B.—*Winona Stamp Mill, Mich.* (Paper read before L. S. Mg. Inst.)—Met. & Chem. Engr., Oct., 1913; p 549; 4500 w*; 35c.

Sembdner, Dr.—*Einiges aus der Zinnhüttenpraxis.* [Notes on tin-metallurgy practice].—Metall & Erz, Sept. 22, 1913; p 772; 3200 w; 50c.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.*—Mg. & Eng. World, July 5, 1913; p 9; 2000 w*; July 19, 1913; p 115; 1300 w*; Aug. 9, 1913; p 255; 1200 w; 30c.

Söhnlein, M. G. F.—*Economical Fine Grinding in Pans.*—E. & M. J., Sept. 27, 1913; p 581; 2500 w*; 25c.

Spicer, H. N.—*Evolution of Methods of Handling Slime on the Rand.*—Met. & Chem. Engg., Aug., 1913; p 451; 4000 w*; 35c.

Stone, S. R.—*Plant of the Brakpan Mines, South Africa.*—Mg. & Eng. World, Dec. 20, 1913; p 1100; 2600 w*; 10c.

Thompson, H. N., and Sicka, L. T.—*Tooele Plant of International Smelting Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 16, 1913; p 291; 3000 w; 10c.

Troye, G. A.—*The Future of the Rand.*—Mg. Mag., July, 1913; p 50; 3500 w*; 35c.

Tupper, C. A.—*Lowering Furnace-Flux Costs.*—Mg. & Eng. World, June 28, 1913; p 1223; 3200 w*; 10c.

Vail, Richard H.—*No. 2 Crushing Plant of Natomas Con. Co., California.*—E. & M. J., Sept. 13, 1913; p 481; 5000 w*; 25c.

Warriner, R. C.—*Centralized Organization at the Crown Mines, South Africa.* (Paper read before S. Af. Inst. Engrs.).—S. Af. Engg., London, May, 1913; p 105; 7000 w*; 35c.

Warriner, R. C.—*Equipment at the Crown Mines on the Rand.* (Abstract of paper read before S. Af. Assn. Engrs.).—M. & S. P., July 5, 1913; p 13; 1600 w; 20c.

Wettich, Dipl.-Ing.—*Der Aufbereitungsgang des Golderzes in den Werken der Brakpan Mines, Ltd., Johannesburg, und die Einrichtung zur Entfernung der Sandrückstände.* [The method of preparation of gold ores in the works of the Brakpan Mines, Ltd., and the plant for separating the sand residues].—Metall & Erz, Dec. 8, 1913; p 934; 3500 w*; 50c.

——— *Changing a Tube Mill into a Cone Mill.*—E. & M. J., Nov. 22, 1913; p 977; 500 w*; 25c.

———. *Equipment of the City Deep Mine.*—S. Af. Engg., June, 1913; p 121; 2300 w*; 35c.

——— *Progress in Fuel Utilization.* [Editorial].—M. & S. P., Oct. 25, 1913; p 638; 1000 w; 20c.

——— *Stamp Mills of the Past.*—M. & S. P., Sept. 20, 1913; p 462; 1500 w*; 20c.

——— *The Dawson Process of Ore Treatment.*—Mg. & Eng. World, Sept. 13, 1913; p 470; 500 w; 10c.

——— *The Dimensions of Tube Mills.* (Abstract from S. Afr. Mg. Jnl.).—Mg. &

Eng. World, Nov. 29, 1913; p 974; 300 w; 10c.

———. *The Great Falls Reduction Works.* (Abstract of pamphlet issued by Anaconda Co. for A. I. M. E. meeting at Butte).—E. & M. J., Oct. 11, 1913; p 677; 1800 w*; 25c.

———. *The Electric Smelting of Tin.*—S. Af. Mg. Jnl., June 7, 1913; p 386 (first article); 2000 w; 35c.

———. *The McIntyre-Porcupine Mill, Ontario.*—M. & S. P., July 12, 1913; p 52; 500 w; 20c.

———. *The "State Mines" Plant, Transvaal.*—S. Afr. Mg. Jnl., Oct. 18, 1913; p 163; 750 w; 35c.

———. *The Treadwell Group of Mines, Alaska, in* 1912. (Abstract of annual report).—See under gold.

———. *The Trend of Metallurgical Engineering on the Rand.*—S. A. Mg. Jnl., Aug. 2, 1913; p 589; 1500 w; 35c.

———. *Tom Reed and Vulture Cyanide Mills, Arizona.*—E. & M. J., Aug. 2, 1913; p 199; 3100 w*; 25c.

CONCENTRATION: SORTING, SIZING, WASHING

Aikens, Warren.—*Motor Drive at Zinc Mines and Mills.*—Mg. & Eng. World, Oct. 25, 1913; p 781; 2000 w*; 10c.

Allen, A. W.—*Colloids in Ore Dressing.*—M. & S. P., July 19, 1913; p 109; 1000 w; 20c.

Alzugaray, Baxeres de.—*Rapid Advance Made in Copper Hydro-Metallurgical Methods.*—Mg. & Eng. World, June 28, 1913; p 1226; 1000 w; 10c.

Ball, Lionel C.—*The Amakie Sapphire Fields of Queensland.* (Abstract from Queensland Mg. Jnl.).—M. & S. P., July 26, 1913; p 151; 1000 w*; 20c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice,* 1910 *to* 1913.—San Francisco, Mg. & Scl. Press; 732 pp*; $3 (book).

Bousquet, G.—*Du Flottage des Minerais.* [On the flotation of ores] (Abstract from Soc. des Ingenieurs Civils).— L'Echo des Mines, July 17, 1913; p 628.; 1500 w; 35c.

Bradley, F. W.—*Plans of the Alaska Juneau Gold Mining Co.*—M. & S. P., Dec. 6, 1913; p 880; 3500 w*; 20c.

Burchard, Ernest F.—*The Red Iron Ores of East Tennessee.*—Bull. 16, State of Tenn. Geol. Survey; 173 pp*.

Caetani, Gelasio.—*General Principles of Mill Design.*—Mg. Mag., London, June, 1913; p 435; 5500 w*; 35c.

Carpenter, Jay A.—*Operation of the West End Mill, Tonopah, Nevada.*—M. & S. P., Aug. 2, 1913; p 191; 2000 w; 20c.

Cirkel, Fritz.—*Rapport sur les Dépôts de Fer Chromé des Cantons de l'Est de la Province de Quebec.* [Report in the deposits of chromite of the eastern cantons of the province of Quebec].—Canada Dep. of Mines, Mines Branch; 145 pp*.

Coleman, A. P.—*The Nickel Industry: With Special Reference to the Sudbury Region, Ontario.*—Ottawa, Ont.; Monograph Canadian Department of Mines, Mines Branch; 206 pp*.

Collins, J. H.—*Black Tin and White Tin.* (Description of the processes in use).—Mg. Wld. & Engg. Rec., London, Sept. 20, 1913; p 349; 1800 w; 35c. Abstract in Malayan Tin & R. Jnl., Oct. 20, 1913; p 33; 2000 w; 35c.

Crowell, Benedict.—*Concentrating at the Madrid Mine, Virginia, Minn.* (Trans. L. S. Mg. Inst.).—Mg. & Eng. World, Sept. 20, 1913; p 518; 1000 w; 10c.

Curran, Thomas F. V.—*Carnotite.*—E. & M. J., Dec. 27, 1913; p 1223; 3200 w; 25c.

Denny, James J.—*Desulphurizing Silver Ores at Cobalt, Ont.*—M. & S. P., Sept. 27, 1913; p 484; 5000 w*; 20c.

Dickson, Gordon F.—*Cam and Motor Metallurgy.* [Describes method of treating Rhodesian gold ore containing arsenic and antimony].—Mg. Mag., Aug., 1913; p 132; 2800 w*; 35c.

Dittmann, Adolf.—*Das Zwitterstockwerk zu Geyer im Erzgebirge.* [The crystallized tin-ore deposits at Geyer in the Erzgebirge, Germany] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Sept. 8, 1913; p 735; 4500 w*; Sept. 22; p 778; 4000 w*; Oct. 8; p 807; 7500 w*; $1.50.

Donaldson, R. J.—*The Central Mine, Broken Hill, N. S. W.*—Mg. & Engg. Rev., Aug. 5, 1913; p 433; 5000 w*; 35c.

Eddingfield, F. T.—*Gogo, and Its Effect on Gold and Gold Solutions.* [Gogo (plant) juice is used by Philippine Natives in panning gold-bearing sands].—Phil. Jnl. Sci., April, 1913; p 135; 5 pp; 65c.

Edwards, Geo. E.—*Season's Developments on the Lake Iron Ranges.*—Mg. & Eng. World, Nov. 8, 1913; p 825; 4000 w*; 10c.

Flagg, A. L.—*Concentrating High-Grade Fines by Hand.*—E. & M. J., July 12, 1913; p 69; 900 w; 25c.

Gascoyne, Rowland.—*Stamps vs. Tube Mills on the Rand.*—Mg. & Eng. World, June 21, 1913; p 1194; 850 w; 10c.

Godfrey, M., and Vivian, F.—*Machines Centrifuges Appliquées a la Classification et a la Concentration des Minerais.* [Centrifugal machines applied to the classification and concentration of ores] (Translation).—Revue de Métallurgie, July, 1913; p 879; 1200 w*; $1.15.

Goodale, Stephen L.—*The Argo Cyanide Mill at Idaho Springs.*—E. & M. J., Aug. 30, 1913; p 385; 3300 w*; 25c.

Goodall, C. W.—*The Character of the Butte Copper Ores.* (Paper read before Butte meeting Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 6, 1913; p 1035; 1300 w*; 10c.

Hahn, O. H.—*The Kedabeg Copper-Smelting Works in the Caucasus.* (Abstract from Gluckauf).—E. & M. J., July 5, 1913; p 15; 4000 w*; 25c.

Hebbard, James.—*Evolution of Minerals Separation Process on Central Mine, Australia.*—Trans. Aus. Inst. M. E., No. 10; 1913; 88 pp*; 75c.

Hetzel, F. W.—*Coke Crushing and Screening Plants.*—Coal Age, June 7, 1913; p 876; 1500 w*; 20c.

Hofstrand, O. B.—*The Macquisten Tube Flotation Process.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, June 21, 1913; p 1190; 1800 w*; 10c.

Hoover, Theodore J.—*Concentrating Ores by Flotation.*—London, 1912; 221 pp*; $3.75 (book).

Hore, Reginald E.—*Amalgamation and Cyanidation of Cobalt Silver Ores.*—Canadian Mg. Jnl., Sept. 15, 1913; p 568; 5000 w*; 35c.

Hore, Reginald E.—*Nipissing Picking*

and Jigging Plant, Cobalt, Ont.—Can. Mg. Jnl., June 15, 1913; p 363; 2700 w*; 35c.

Howard, L. O.—*Milling at the Silver King, Utah.*—S. L. Mg. Rev., Nov. 30, 1913; p 17; 4000 w*; 25c.

Hurst, G. L.—*Resoiling after Dredging in California.*—M. & S. P., Nov. 8, 1913; p 719; 1100 w*; 20c.

Jacobs, E.—*Improvements in Smelting at the Consolidated Company's Works, Trail, B. C.*—Met. & Chem. Engg., Oct., 1913; p 562; 1800 w; 35c.

Kellogg, L. O.—*An Iron Concentrator of Unusual Design.*—E. & M. J., Aug. 9, 1913; p 243; 1400 w*; 25c.

Kellogg, L. O.—*Home-Made Magnetic Concentrator.*—E. & M. J., Aug. 16, 1913; p 307; 600 w*; 25c.

Kellogg, L. O.—*Notes on Lake Champlain Iron Mines.*—E. & M. J., Dec. 6, 1913; p 1065; 3100 w; 25c.

Kellogg, L. O.—*Notes on the Cuyuna Iron Range, Minnesota.*—E. & M. J., Dec. 27, 1913; p 1200; 4000 w*; 25c.

King, Rufus.—*American Mining Interests in Central America.*—Mg. & Eng. World, July 12, 1913; p 61; 1700 w*; 10c.

Kranafeldt, P.—*Electromagnetic Ore Concentration by the Ullrich Separator.*—Canadian Mg. Jnl., Nov. 15, 1913; p 703; 3600 w*; 35c.

Laist, Frederick.—*Roasting and Leaching Tailings at Anaconda.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Sept. 27, 1913; p 545; 3200 w*; Oct. 7, 1913; p 599; 2800 w*; 20c.

Laucks, I. F.—*Principles and Methods of Ore Testing.*—E. & M. J., July 12, 1913; p 51; 1200 w; 25c.

Letcher, Owen.—*New Treatment Plants in Rhodesia.*—M. & S. P., Nov. 15, 1913; p 761; 4000 w*; 20c.

Macgregor, Frank S.—*Progress in Electrostatic Ore Dressing.* (Abstract of paper read before 24th annual meeting Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1071; 1900 w; 10c.

Maguire, Don, and Howard, L. O.—*The Romance of a Famous Gold Mine.* [Con. Mercur].—S. L. Mg. Rev., July 15, 1913; 7500 w*; 25c.

Marsh, A. G.—*Lubrication at Steptoe Concentrator, Nevada.*—E. & M. J., June 21, 1913; p 1237; 2500 w*; 25c.

McDonald, P. B.—*Developments on Michigan Iron Ranges.*—E. & M. J., Aug. 23, 1913; p 335; 4500 w*; 25c.

McLeod, A. W.—*Metallurgical Tendencies in Western Australia.* (Abstract from Kalgoorlie Miner).—M. & S. P., Sept. 13, 1913; p 424; 2500 w*; 20c.

Megraw, Herbert A.—*The Black Oak Cyanide Plant, California.*—E. & M. J., June 14, 1913; p 1179; 2500 w*; 25c.

Mueskens, Clemens.—*Die neuere Entwickelung der elektromagnetischen und elektrostatischen Erz-Aufbereitung.* [The recent development of electro-magnetic and electrostatic ore preparation].—Technische Blätter, Aug. 2, 1913; p 241; 2300 w; Aug. 9; p 249; 2500 w*; Aug. 23; p 265; 2200 w*; Sept. 7, 1913; p 341; 3200 w*; Sept. 20, 1913; p 357; 1100 w*; Sept. 27, 1913; p 365; 1500 w*; Oct. 4, 1913; p 375; 1500 w*; Oct. 18, 1913; p 389; 1500 w*; Oct. 25, 1913; p 397; 1100 w*; Nov. 8; p 415; 1300 w*; $2.45.

Nason, S. L.—*Witherbee-Sherman No. 3 Magnetic Mill* (New York).—E. & M. J., Nov. 22, 1913; p 959; 1900 w*; 25c.

Newman, J. Malcolm.—*Notes on Broken Hill Treatment Methods.* (Abstract from Aust. Mg. Stand.).—Mg. & Eng. World, Aug. 23, 1913; p 331; 2500 w; 10c. M. & S. P., Aug. 23, 1913; p 307; 2400 w*; 20c.

Northey, George V.—*Concentration of Cinnabar Ores.*—E. & M. J., Oct. 25, 1913; p 783; 900 w*; 25c.

Palmer, Leroy A.—*Tungsten in Boulder County, Colorado.*—E. & M. J., July 19, 1913; p 99; 4000 w*; 25c.

Parmelee, H. C.—*Cyanide Practice in the Black Hills, S. D.*—Met. & Chem. Engg., Aug., 1913; p 435; 4500 w; Sept., 1913; p 500; 3200 w*; 70c.

Peterson, O. G.—*Shaking Screens in a Concrete Tipple.*—Coal Age, June 21, 1913; p 958; 1200 w*; 20c.

Peterson, O. G.—*The Aeco Concrete Tipple and Shaker Screen.*—C. & C. Opr., Aug. 28, 1913; p 386; 1300 w*; 25c.

Phalen, W. C.—*Phosphate Industry in Florida in* 1912. (Abstracted from Mineral Resources of the U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 16, 1913; p 301; 1800 w; 10c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.*—Mg. & Eng. World, July 19, 1913; p 109; 1800 w*; 10c.

Purcell, M. E.—*Surface Ore-Handling Arrangement at Rossland, B. C.* (Abstract of paper read before Spokane Sec. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, June 28, 1913; p 1230; 10c.

Read, Thomas T.—*Mining by Wholesale.* [Description of quarry and crushing plant of the Thompkins Cove Stone Co., New York].—M. & S. P., Sept. 6, 1913; p 368; 3500 w*; 20c.

Reid, Fraser.—*Milling Practice in the Cobalt Camp.* (Paper read before Int. Geol. Congress, Cobalt).—Canadian Mg. Jnl., Sept. 1, 1913; p 542; 2300 w; 35c. M. & S. P., Aug. 9, 1913; p 216; 2100 w*; 20c.

Reid, F. W.—*Broken Hill Proprietary Works, South Australia.* (Abstract from Mg. & Engg. Rev.).—Mg. & Eng. World, Nov. 22, 1913; p 923; 3200 w; 10c.

Reuter, Franz.—*Die neuste Entwickelung der Eisenerzversorgung der oberschlesischen Hochofenindustrie.* [The newest development of the iron-ore supply of the Upper Silesian blast-furnace industry].—Glückauf, Nov. 15, 1913; p 1892; 4800 w; Nov. 22; p 1925; 8000 w*; $1.

Rice, Claude T.—*Canvas Plant of the Federal Lead Co., Missouri.*—E. & M. J., Sept. 13, 1913; p 487; 1500 w*; 25c.

Rice, Claude T.—*Joplin Intermittent Settling Tank.*—E. & M. J., June 14, 1913; p 1198; 650 w*; 25c.

Rice, Claude T.—*Milling in Southeastern Missouri.*—E. & M. J., June 21, 1913; p 1229; 2800 w*; June 28, 1913; p 1283; 5000 w*; July 5, 1913; p 7; 7000 w*; July 12, 1913; p 57; 5500 w*; $1.

Richards, Robert H.—*Ore-Dressing Improvements.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2299; 6 pp; 35c. Mg. & Eng. World, Oct. 4, 1913; p 587; 2300 w; 10c.

Rodgers, C. Earl.—*The Motherlode Mill, Salmo, B. C.*—E. & M. J., Sept. 20, 1913; p 529; 3800 w*; 25c.

Sebenius, John Uno.—*The Coleraine Iron-Ore Washing Plant, Minnesota.* (Abstract of paper read before L. S. Mg. Inst.).—Iron Age, Aug. 28, 1913; p 453; 5000 w*; 30c.

Sharwood, W. J.—*Calculation of Extraction in Cyanidation.* [Communication].—

Jones, Dwight A.—*The St. Joseph Lead Co.* (Abstract from annual report).—M. & S. P., July 5, 1913; p 16; 3000 w; 20c.

Lalande, De.—*Le Nickel en* 1912. [Nickel in 1912] (From L'Echo des Mines).—Bull. du Commerce, April 12, 1913; p 15; 600 w; 35c.

Larsh, Paul A.—*Lucky Bill Lead-Vanadium Mine.*—E. & M. J., Dec. 13, 1913; p 1103; 3700 w*; 25c.

Livermore, Robert. — *Development and Costs at the Kerr Lake, Ontario.* (Abstract of annual report).—Mg. & Eng. World. Oct. 4, 1913; p 605; 2900 w; 10c.

McBride, Richard.—*Annual Report of the Minister of Mines of British Columbia for the Year Ending Dec.* 31, 1912.—Report; 347 pp*.

McCaskey, H. D.—*Precious and Semi-precious Metals in the Eastern States in* 1912; *Mine Production.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 22 pp.

McCaskey, H. D.—*Quicksilver in* 1912; *Production and Resources.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 20 pp.

McCaskey, H. D.—*Gold and Silver in* 1912—*General Report.*—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 55 pp.

McLeish, John.—*Annual Report on the Mineral Production of Canada During the Calendar Year* 1911.—Canada Dep. of Mines, Mines Branch; 316 pp.

McLeish, John.—*A General Summary of the Mineral Production of Canada During the Calendar Year* 1912.—Canada Dep. of Mines, Mines Branch; 46 pp.

McNeill, Bedford.—*World's Production of the Metals.* (Extracts from presidential address, Inst. Mg. & Met., London).—Canadian Mg. Jnl., Aug. 1, 1913; p 473; 3600 w; 35c.

Middleton, Jefferson.—*Statistics of the Pottery Industry in the United States in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 16 pp.

Middleton, Jefferson. — *The Production, Occurrence and Uses of Fuller's Earth* (Mineral Resources of U. S.).—Mg. & Eng. World, July 19, 1913; p 117; 700 w; 10c.

Middleton, Jefferson, and Hance, J. H.—*Statistics of the Clay-Working Industries in the United States in* 1912, *with Notes on the Occurrence of the Different Varieties of Clay.*—Advance chapter from Mineral Resources of U. S.; 100 pp.

Morrow, John D. A.—*Coal Mining United States.*—Bull. Thirteenth Census of U. S., 1910, Bureau of the Census, U. S. Dep. of Commerce; 55 pp.

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metallurgy in 1912].—Glückauf, Oct. 11, 1913; p 1678; 7000 w; Oct. 18, 1913; p 1723; 4000 w; Oct. 25, 1913; p 1766; 4600 w; $1.50.

Of, Charles.—*The Mineral Industry, Its Statistics, Technology and Trade, During* 1912.—New York: McGraw-Hill Book Co.; 1090 pp*; $10.

Parker, E. W.—*Arkansas as a Mineral Producer.* (Abstract of Survey report).—Mg. & Eng. World, Nov. 8, 1913; p 832; 300 w; 10c.

Parker, E. W.—*Coke Output in the United States in* 1912. (Advance report U. S. Geol. Surv.).—C. & C. Opr., July 3, 1913; p 217; 1800 w; 20c.

Parker, E. W.—*Idaho Gains in Mineral Output in* 1912. (Advance report U. S. Geol. Surv.].—Mg. & Eng. World, Dec. 20, 1913; p 1116; 250 w; 10c.

Parker, E. W.—*Ohio's Large Mineral Production in* 1912. (Abstract from Min. Res. of U. S., U. S. Geol. Survey).—Mg. & Eng. World, Nov. 29, 1913; p 979; 350 w; 10c.

Parker, E. W.—*Record-Breaking Mineral Production of the United States in* 1912. (Advance chapter Min. Res. U. S.).—Mg. & Eng. World, Dec. 20, 1913; p 1113; 300 w; 10c.

Parker, Edward W.—*The Manufacture of Coke in* 1912.—Advance chapter from Mineral Resources of U. S.; 64 pp.

Parker, E. W.—*Production of Arizona in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Dec. 6, 1913; p 1026; 300 w; 10c.

Parker, Edward W.—*Production of Coal in the United States from* 1814 *to the Close of* 1912.—Table, U. S. Geological Survey.

Parker, Edward W.—*The Production of Anthracite in* 1912.—Adv. chap. Min. Resources of the U. S., U. S. Geol. Surv.; 19 pp.

Parker, Edward W.—*The Production of Coal in* 1912.—Advance chapter from Mineral Resources of U. S.; 219 pp*. Mg. & Eng. World, Sept. 6, 1913; p 425; 700 w; 10c.

Parker, E. W.—*Utah Coal Production in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, July 5, 1913; p 11; 700 w; 10c.

Parker, E. W., and Middleton, Jefferson. —*Clay Products of the United States,* 1912, *with Corresponding Totals for* 1911.—Table, U. S. Geol. Survey.

Phalen, W. C.—*Potash Salts; Summary for* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 36 pp.

Phalen, W. C.—*Sulphur, Pyrite and Sulphuric Acid.*—Am. Fert., Aug. 9, 1913; p 41; 16 pp; 35c.

Phalen, W. C.—*The Production of Bauxite and Aluminum in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 16 pp.

Phalen, W. C.—*The Production of Phosphate Rock in* 1912.—Advance chapter from Mineral Resources of U. S.; 24 pp.

Phalen, W. C.—*The Production of Salt and Bromine in* 1912.—Advance chapter from Mineral Resources of U. S.; 25 pp.

Poizat, C. du.—*A Propos des Phosphates d'Egypte.* [Concerning the phosphates of Egypt].—Echo des Mines, Oct. 9, 1913; p 1027; 500 w; 35c.

Prest, Walter H.—*The Gold Fields of Nova Scotia.*—Indust. Advocate, Halifax, Sept., 1913; p 5; 5000 w; 35c.

Przyborski, M.—*Ungarns Salzproduktion im Jahre* 1911. [Hungary's salt production in 1911].—Montanist. Rundschau, Aug. 1, 1913; p 727; 800 w; 35c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.* (First article).—Mg. & Eng. World, June 21, 1913; p 1179; 2200 w*; 10c.

Réz, Géza.—*Der Bergbau in Ungarn.* [Mining in Hungary] (Abstract).—Montan-Ztg., Nov. 1, 1913; p 409; 1800 w; 35c.

Richards, Robert H.— *Great Need of Ore-Dressing Improvements.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Oct. 4, 1913; p 587; 2300 w; 10c.

Robertson, Wm. Fleet.—*Coal Mining in British Columbia.* (Extract from annual report of Minister of Mines, 1912).—Cana-

dian Mg. Jnl., Nov. 1, 1913; p 671; 2200 w; 35c.

Rumberg, Berginspektor.—*Die wirtschaftliche Bedeutung der deutschen Benzolgewinnung, insbesondere für die Motorenindustrie.* [The economic significance of German benzol recovery, especially for the motor industr].—Bergbau, Oct. 16, 1913; p 689; 2000 w*; 35c.

Siebenthal, C. E.—*Lead in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 42 pp.

Siebenthal, C. E.—*Midyear Statement of the Production of Spelter in the United States, Jan.* 1 *to June* 30, 1913.—U. S. Geol. Survey.

Siebenthal, C. E.—*Zinc and Cadmium in* 1912—*General Report.*—Adv. chap. Min. Res. U. S., U. S. Geol. Survey; 53 pp.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.*—Mg. & Eng. World, Aug. 9, 1913; p 255; 1200 w; 10c.

Smart, George.—*High Costs and Low Prices Affect Pig Output.*—Ir. Trade Rev., July 10, 1913; p 57; 600 w; 25c.

Stansbie, J. H.—*Diamond-Cutting Industry in South Africa.* (U. S. Consular Report).—Mg. & Eng. World, Sept. 20, 1913; p 513; 1500 w; 10c.

Stebinger, Eugene.—*The Coal Fields of Montana.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2329; 33 pp*; 35c.

Steele, Heath.—*Copper Prices, Consumption and Supply.*—E. & M. J., Dec. 6, 1913; p 1061; 4000 w*; 25c.

Sterrett, Douglas B.—*Diamonds and Other Gems Mined in the United States* (From advance chap. Mineral Resources of U. S.).—M. & S. P., July 19, 1913; p 94; 500 w; 20c.

Sterrett, Douglas B.—*Production of Gems and Precious Stones in the United States in* 1912. (Abstract from Mineral Resources, U. S. Geol. Surv.).—Mg. & Eng. World, July 12, 1913; p 65; 800 w; 10c.

Sterrett, Douglas B.—*The Production of Mica in* 1912.—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 15 pp.

Stone, Ralph W.—*The Gypsum Industry in* 1912.—Advance chapter from Mineral Resources of U. S.; 15 pp.

Stone, Ralph W.—*The Production of Lime in* 1912.—Advance chapter from Mineral Resources of U. S.; 20 pp.

Stone, Ralph W.—*The Production of Sand and Gravel in* 1912.—Advance chapter of Mineral Resources of U. S.; 18 pp.

Stopnewitsch, A.—*Die Erdöl-Industrie zu Grosny,* 1912. [The petroleum industry at Grosny, Russia, 1912].—Zts. Internat. Vereines Bohringenieure, Nov. 15, 1913; p 257; 900 w; 35c.

Storms, W. H.—*Sixty Years of Mining in California.*—Mg. & Eng. World, Aug. 2, 1913; p 213; 2200 w; 10c.

Tanasescu, J., and Porucik, T.—*Die Statistik der rumänischen Bergwerksprodukte: Erdöl, Erdgas, Kohle und Salz;* [Statistics of the Roumanian mine products: Petroleum, natural gas, coal and salt] (From l'Annuaire de l'Institut Géologique de Roumanie).—Zts. Internat. Vereines Bohringenieure, June 15, 1913; p 133; 2000 w; 35c.

Thom, W. T.—*Record Mineral Production of the United States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 883; 500 w; 10c.

Twitchell, M. W.—*The Mineral Industry of New Jersey for* 1912.—Bull. 11, Geol. Survey of New Jersey; 43 pp*.

Walker, T. L.—*Rapport sur les Minerais de Tungstene du Canada.* [Report on the tungsten ores of Canada].—Canada Dep. of Mines, Mines Branch; 58 pp*.

Watson, Thomas L.—*Mineral Production of Virginia in* 1912.—Mg. & Eng. World, Nov. 22, 1913; p 928; 600 w; 10c.

Watson, Thomas L.—*The Mineral Resources of Virginia.*—M. & S. P., June 14, 1913; p 898; 3500 w*; 20c.

Weston, Eustace.—*Gold Production in Relation to Humanity.*—Jnl. Chem. Met. & Mg. Soc. S. Af., April, 1913; p 472; 8000 w; 50c.

Willert, Bergassessor.—*Deutschlands Bergbau und Bodenschätze.* [German's mining and mineral wealth].—Bergbau, Aug. 14, 1913; p 529; 2200 w; 35c.

Wilson, H. W.—*Mexico's Oil Industry.* (British Consular Report).—Petr. Wld., Aug., 1913; p 372; 1800 w; 35c.

Wolf, J. H. G.—*California Oil Production for* 1913.—M. & S. P., Oct. 11, 1913; p 579; 1100 w; 20c.

Yale, Charles G.—*California Mineral Production in* 1912. (Advance chapter Min. Res., U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 4, 1913; p 594; 1500 w; 10c.

Yale, Chas. G.—*Mine Production of Oregon in* 1912. (Advance chapter Min. Res. U. S.; abstract).—Mg. & Eng. World, Sept. 20, 1913; p 514; 700 w; 10c.

Yale, Charles G.—*Precious and Semiprecious Metals in California and Oregon in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol. Survey; 90 pp.

Yale, Charles G., and Gale, Hoyt S.—*The Production of Magnesite in* 1912.—Advance chapter from Mineral Resources of U. S.; 9 pp.

———. *Annual Report of the Director of the Mint for the Fiscal Year Ended June* 30, 1912, *and Also Report on the Production of the Precious Metals in the Calendar Year* 1911.—Document No. 2671, U. S. Treasury Dep.; 317 pp.

——— *Annual Report of the Minister of Mines, British Columbia.* (Summarized by E. Jacobs).—B. C. Mg. Excha., July, 1913; p 5; 8 pp*; 35c.

———. *Australian Mineral Statistics.*—Aust. Mg. Stand. (Pamphlet); pp 26; $1.

——— *Australian Mineral Output.*—Aus. Mg. Stand., Nov. 13, 1913; p 399; 2300 w; 35c.

——— *Austrian Mining in* 1912.—Mg. Jnl., London, Oct. 4, 1913; p 935; 2300 w; 35c.

———. *Australian Tin Production.*—Mg. Jnl., London, June 7, 1913; p 547; 1500 w; 35c.

——— *A Year's Development of the Trinidad Petroleum Fields.*—Petr. Wld., London, Nov., 1913; p 523; 2500 w; 35c.

——— *Bergbau und Eisenindustrie Schwedens im Jahre,* 1912. [Mining and iron industry of Sweden in 1912].—Glückauf, Oct. 25, 1913; p 1772; 4500 w; 50c.

———. *Bericht des Vorstandes des Zentralvereins der Bergwerksbesitzer Osterreichs;* [Report of the Committee of the Austrian Coal Producers].—Montanistische Rundschau, June 1, 1913; p 493; 21 pp*; 35c.

———. *Bericht des Rheinisch-Westfälischen Kohlen-Syndikats über das Geschäftsjahr* 1912; [Abstract report of the

Rhine-Westphalia Coal Syndicate for 1912]. —Glückauf, May 24, 1913; p 825; 2500 w; 50c.

——— *Big Increase in Colorado's Metal Output.*—Mg. & Eng. World, Sept. 13, 1913; p 468; 700 w; 10c.

——— *California's Mineral Output in* 1912. (Report of Calif. State Mg. Bureau). —Mg. & Eng. World, Dec. 6, 1913; p 1013; 300 w; 10c.

——— *California's Varied Mineral Production.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 890; 500 w; 10c.

——— *China as a Tin Producer.*—M. & S. P., Oct. 25, 1913; p 646; 500 w; 20c.

———. *Chino Copper Co.'s Second Quarter Report.*—Mg. & Eng. World, Aug. 23, 1913; p 341; 1100 w; 10c.

——— *Conditions in Rhodesia.*—Mg. Jnl., London, July 26, 1913; p 705; 2500 w; 35c.

———. *Copper Production in May.*—Mg. & Eng. World, June 21, 1913; p 1182; 250 w; 10c.

——— *Copper Stocks Decrease in September.*—Mg. & Eng. World, Oct. 11, 1913; p 636; 400 w; 10c.

———. *Costs and Development at the Ahmeek Mine, Mich.* (Abstract of annual report).—Mg. & Eng. World, June 28, 1913; 1400 w*; 10c.

———. *Das Berg und Hüttenwesen in Bosnien und der Herzegowina.* [The mining and metallurgical industries in Bosnia and Herzegovina in 1912].—Montan-Ztg., July 15, 1913; p 267; 500 w; 35c.

———. *Der Bergbau in China, Konsularbezirk Shanghai im Jahre* 1911; [Mining in China, Shanghai consular district, in 1911] (First part).—Montan-Ztg., June 15, 1913; p 225; 3500 w; 35c.

——— *Der Bergbau Japans.* [Japan's mining].—Montan & Metallindustrie-Ztg., Sept. 21, 1913; p 4; 600 w; 35c.

——— *Die belgische Bergwerksindustrie im Jahre* 1912. [The Belgian mining industry in 1912].—Glückauf, Nov. 20, 1913; p 1981; 2400 w; 50c.

——— *Die Berg und Hüttenwerksproduktion Oesterreichs im Jahre* 1912. [The mining and metallurgical production of Austria in 1912].—Montanistische Rundschau, Oct. 16, 1913; p 981; 2500 w; 35c.

——— *Die Bergwerks- und Hüttenindustrie Oesterreichs im Jahre* 1912. [The mining and metallurgical industry of Austria in 1912].—Glückauf, Oct. 18, 1913; p 1734; 3000 w; 50c.

——— *Die Bergwerksindustrie und Bergverwaltung Preussens im Jahre* 1912. [Prussia's mining industry and mine administration in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 403; 20,000 w; $1.50.

——— *Die Bergwerksindustrie in Frankreich und Algier in den Jahren* 1910 *und* 1911. [The mining industry in France and Algeria in 1910 and 1911]. (From report of Minister of Public Works, France).—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3; 1913; p 382; 4500 w; $1.50.

——— *Die Eisenindustrie Italiens.* [Italy's iron industry].—Berg & Hüttenmännische Rundschau, Sept. 5, 1913; p 298; 2800 w; 35c.

——— *Die Eisen und Metallindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911]. (See Gold).

——— *Die Eisen und Maschinenindustrie Italiens im Jahre* 1912. [The iron and machinery industry of Italy in 1912].—Montan & Metallindustrie-Ztg., Aug. 10, 1913; p 5; 100 w; 35c.

——— *Die Eisenindustrie in Italien.* [The iron industry in Italy].—Montan-Ztg., Sept. 1, 1913; p 326; 800 w; 35c.

——— *Die Entwickelung der niederrheinisch-westfälischen Steinkohlenzechen im 1. Vierteljahr* 1913. [The development of the lower-Rhein-Westphalian coal mines in the first quarter of 1913].—Glückauf, June 28, 1913; p 1023; 4000 w; 50c.

——— *Die Erdölfelder von Birma.* [The oil fields of Burma].—Chemiker & Tech.-Ztg., Nov. 1, 1913; p 163; 1100 w; Nov. 15, 1913; p 169; 1000 w*; 70c.

——— *Die Erdölindustrie Mexicos* 1912. [The petroleum industry of Mexico in 1912] (Translation into German from Bull. of Tiflis Phys. Observatory, Tiflis, Russia).—Zts. Internat. Vereines Bohringenieure, Sept. 1, 1913; p 201; 800 w; 35c.

——— *Die französische Bergwerksindustrie im Jahre* 1911. [The French mining industry in 1911].—Glückauf, Aug. 2, 1913; p 1222; 5000 w; 50c.

———. *Die Kaukasische Petroleum-Industrie.* [The petroleum industry of the Caucasus] (From Oil & Couleur Trades Jnl.).—Chemiker & Tech.-Ztg., Sept. 1, 1913; p 130; 1200 w; 35c.

——— *Die Montanindustrie in Spanien.* [The mining industry in Spain].—Montan-Ztg., Sept. 15, 1913; p 346; 800 w; 35c.

———. *Die oberschlesische Bergwerks- und Hüttenindustrie im Jahre* 1912; [The Upper Silesian mining and metallurgical industry in 1912].—Glückauf, June 7, 1913; p 899; 4500 w; 50c.

——— *Die Petroleum-Weltproduction des Jahres* 1912 *unter besonderer Berücksichtigung der Vereinigten Staaten.* [The world's petroleum production in 1912, with special reference to the United States].—Petroleum, Nov. 5, 1913; p 149; 6000 w; 60c.

——— *Die Petroleumindustrie in Rumänien im Jahre* 1912. [The petroleum industry in Roumania in 1912].—Montan-Ztg., Oct. 1, 1913; p 364; 4000 w; 35c.

——— *Die rheinische Braunkohlenindustrie im Jahre* 1912. [The Rhenish lignite industry in 1912].—Bergwerks-Ztg., July 29, 1913; p 1; 1600 w; 35c.

——— *Die rumänische Petroleumindustrie im Jahre* 1912. [The Roumanian petroleum industry in 1912].—Bergwerks-Ztg., Aug. 2, 1913; p 1; 1200 w; 35c.

——— *Die rumänische Petroleum-Industrie.* [The Roumanian petroleum industry] (Translated from Le Pétrole).—Chemiker & Tech.-Ztg., Nov. 1, 1913; p 166; 500 w; 35c.

——— *Die Versorgung Deutschlands mit Eisenerzen.* [Providing Germany with iron ores].—Centralblatt Hütten & Walzwerke, Oct. 5, 1913; p 549; 2000 w; 35c.

——— *Economic Minerals and Mining Industries of Canada.*—Report, Canada Dep. of Mines, Mines Branch; 77 pp*.

——— *Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

——— *Erzeugung und Verbrauch der wichtigsten Metalle.* [The production and consumption of the most important metals] (From the statistical compilation of the Metal Co., Metal Bank & Metallurgical Co.,

A. G., Frankfurt a. M., Germany).—Glückauf, Sept. 13, 1913; p 1519; 8000 w; 50c.

———. *Feldspar Output in the United States in* 1912. (Advance report of U. S. Geol. Surv.).—Mg. & Eng. World, June 28, 1913; p 1234; 325 w; 10c.

———. *Finished Steel Production in* 1912. (Abstracted from Am. Iron & Steel Assn. Report).—E. & M. J., Aug. 23, 1913; p 373: 700 w: 25c.

———. *Geschäftsbericht des Kali-Syndikats, Leopold-Stassfurt, über das Jahr* 1912. [Business report of the potash syndicate, Leopold-Stassfurt, through the year 1912].—Glückauf, June 21, 1913; p 988; 1500 w; 50c.

——— *Gewinnung der Bergwerke des Preussischen Staats im Jahre* 1912. [Production of the mines of Prussia in 1912].—Glückauf, Nov. 29, 1913; p 1984; 4000 w; 50c.

——— *Gold in Surinam, Dutch Guiana.* —M. & S. P., Dec. 27, 1913; p 1201; 500 w; 20c.

———. *Illinois Coal Statistics.*—Mg. & Eng. World, Oct. 4, 1913; p 588; 500 w; 10c.

——— *Illinois as a Mineral Producer.* (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, Nov. 15, 1913; p 884; 450 w; 10c.

——— *Indian Mines in* 1912. (Abstract from India Geol. Surv. report).—Mg. Jnl., Oct. 18, 1913; p 982; 1600 w; 35c.

——— *India's Mineral Production.* (Abstract of India Geol. Surv. report).—Mg. Wld. & Engg. Rec., London, Sept. 27, 1913; p 376; 1800 w; 35c.

——— *Iron and Steel Production of Italy.*—E. & M. J., Dec. 27, 1913; p 1211; 500 w; 25c.

——— *Italian Mineral and Metallurgical Industries in* 1912. (Abstract from Revista del Servizio Minerario).—Iron & Coal Trade Rev., Dec. 5, 1913; p 875; 1500 w; 35c.

——— *La Riqueza Minera del Peru.* [The mineral wealth of Peru] (From Boletin de Minas, Industrias y Construcciones, Lima).—Revista Minera, Sept. 1, 1913; p 421; 1500 w; 35c.

———. *La Production des Mines de Fer de Normandie en* 1912. [The production of the iron mines of Normandie in 1912] (From L'Echo des Mines).—Bull. Soc. Amicale Douai, May 25, 1913; p 312; 450 w; 35c.

——— *La Production Houillère Française en* 1912. [The production of coal in France in 1912].—Bull. Soc. Amicale Douai, Aug. 25, 1913; p 577; 200 w; 35c.

———. *La Production du Manganèse dans le Monde.* [The world's production of manganese].—Revue Pratiq. Ind's Metlgq., Aug., 1913; p 7; 500 w; 40c.

——— *La Production Sidérurgique de la France en* 1912. [The iron and steel production of France in 1912].—Bull. Soc. Amicale Douai, Sept. 10, 1913; p 604; 300 w; 35c.

——— *Le Pétrole en Roumanie.* [Petroleum in Roumania—Production in 1911 and 1912]. (From report of the Belgian Legation at Bucharest).—Le Pétrole, June 20, 1913; p 3; 700 w; 35c.

———. *Lead and Zinc in Kansas in* 1912. (Advance report U. S. Geol. Surv.). —Mg. & Eng. World, June 21, 1913; p 1197; 200 w; 10c.

———. *Leading Copper Producers in July.*—Mg. & Eng. World, Aug. 23, 1913; p 344: 500 w; 10c.

——— *Les Pyrites.* [Pyrites].—Le Phosphate, Sept. 15, 1913; p 877; 1200 w; 35c.

——— *L'industria del ferro in Italia.* [The iron industry in Italy] (Translated from Nachtrichten für Handel & Industrie). —Metallurgia Ital., Sept. 30, 1913; p 640; 1800 w; 35c.

——— *L'industria siderurgica della Russia nel* 1912. [Russia's iron industry in 1912] (Translated from Stahl & Eisen).—Metallurgia Ital., Sept. 30, 1913; p 638; 500 w; 35c.

——— *L'Industrie de Pétrole en Roumanie.* [The petroleum industry in Roumania—Statistics for the first quarter of 1913].—Le Petrole, July 5, 1913; p 3; 500 w; 35c.

——— *L'Industrie du Pétrole en Roumanie.* [The petroleum industry in Roumania] (Abstract from a report of the Belgian legation at Bucharest).—Le Pétrole, Aug., 1913; p 1; 2300 w; 35c.

——— *L'Industrie Minérale en France Pendant L'Année* 1911. [The mineral industry of France during 1911]. (Extract from Statistics of the Mineral Industry, France).—Bull. Soc. Amicale Douai, July 25, 1913; p 496; 1600 w; 35c

——— *Magnesite Production of California.* (Advance report U. S. Geol. Surv.). —Mg. & Eng. World, Sept. 6, 1913; p 421; 750 w; 10c.

———. *Metal Production in the Eastern States in* 1912. (Advance report U. S. Geol. Surv.).—Mg. & Eng. World, June 21, 1913; p 1190; 650 w; 10c.

——— *Metal Production of the Leading States in* 1911-12. (Compiled from advance reports U. S. Geol. Surv.).—Mg. & Eng. World, Oct. 18, 1913; p 692; table; 10c.

———. *Mica: Its Production in the United States and Its Varied Uses.* (Advance report U. S. Geological Survey; abstract).—Mg. & Eng. World, June 14, 1913; p 1150; 1100 w; 10c.

——— *Michigan Shows Increased Output in* 1912. (U. S. Geol. Surv. report).—Mg. & Eng. World, Dec. 27, 1913; p 1147; 650 w; 10c.

——— *Mine Production of Colorado in* 1912; (U. S. Geol. Surv.).—Mg. & Eng. World, Sept. 27, 1913; p 559; table; 10c.

———. *Mineral Industry in California in* 1912. (Report of California State Mining Bureau; abstract).—Mg. & Eng. World, July 5, 1913; p 8; 600 w; 10c.

———. *Mineral and Metal Trade of China in* 1912.—Mg. Jnl., London, July 19, 1913; 1300 w; 35c.

——— *Mineral Production of Belgium in* 1912.—E. & M. J., Dec. 20, 1913; p 1168; 300 w; 25c.

——— *Mineral Production of Colorado in* 1912. (Advance report U. S. Geol. Surv.)—M. & S. P., Dec. 13, 1913; p 930; 200 w; 20c.

——— *Mineral Production of Italy in* 1912.—E. & M. J., Dec. 20, 1913; p 1164; 150 w; 10c.

———. *Mineral Production of Japan.* (British Consular Report; abstract).—E. & M. J., Aug. 16, 1913; p 302; 200 w; 25c.

——— *Mineral Production of New Zealand in* 1912.—E. & M. J., Dec. 6, 1913; p 1116; 300 w; 25c.

Romance of a Famous Gold Mine. [Con. Mercur].—S. L. Mg. Rev., July 15, 1913; 7500 w*; 25c.

Megraw, Herbert A.—*Grinding Ores for Cyanidation.*—E. & M. J., Nov. 15, 1913; p 917; 5000 w*; 25c.

Merton, A. M.—*Mill Construction and Estimates of Cost.*—Mg. & Eng. World, Oct. 11, 1913; p 639; 1900 w; Oct. 18, 1913; p 687; 2600 w; Oct. 25, 1913; p 739; 2200 w; Nov. 1, 1913; p 798; 3200 w; Dec. 27, 1913; p 1149; 2000 w; 50c.

Seeber, R. B.—*Winona Stamp Mill, Mich.* (Paper read before L. S. Mg. Inst.).—Met. & Chem. Engr., Oct., 1913; p 549; 4500 w*; 35c.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.*—Mg. & Eng. World, Aug. 9, 1913; p 265; 1200 w; 10c.

Smart, George.—*High Costs and Low Prices Affect Pig Output.*—Ir. Trade Rev., July 10, 1913; p 57; 600 w; 25c.

Steele, Heath.—*The Cost of Copper.*—E. & M. J., Aug. 9, 1913; p 231; 7000 w; 25c.

Welhaven, Alf.—*Work of the Oriental Consolidated Mines, Korea.*—M. & S. P., Nov. 29, 1913; p 857; 2000 w*; 20c.

——— *Annual Report of Granby Con. Co., B. C.*—B. C. Mg. Exch., Oct., 1913; p 5; 4300 w; 35c.

——— *Camp Bird Mine.* (Abstract from annual report).—E. & M. J., Dec. 27, 1913; p 1222; 500 w; 25c.

——— *Chino Copper Co.'s Eighth Quarterly Report.*—Mg. & Eng. World, Nov. 22, 1913; p 932; 750 w; 10c.

——— *Costs at the Hollinger Mine, Ontario.*—E. & M. J., Oct. 18, 1913; p 739; 500 w; 25c.

———. *Costs at the Lake View and Star Mines.*—M. & S. P., Aug. 2, 1913; p 121; 250 w*; 20c.

———. *Costs and Development at the Ahmeek Mine, Mich.* (Abstract of annual report).—Mg. & Eng. World, June 28, 1913; 1400 w*; 10c.

——— *Costs at the Great Fingall Mine, Western Australia.*—M. & S. P., Nov. 8, 1913; p 732; 350 w; 20c.

———. *Costs and Profits at Butte Copper Mines.*—Mg. & Eng. World, June 21, 1913; p 1198; 400 w; 10c.

———. *Mill Cost Data of the Goldfield Consolidated Milling & Transportation Co.*—E. & M. J., July 19, 1913; p 124; 2 pp. diagrams; 25c.

——— *Mine and Mill Costs at the Tomboy Mines, Colorado.*—Mg. & Eng. World, Nov. 15, 1913; p 876; 600 w; 10c.

———. *Mining and Milling Costs at Alaska-Treadwell.*—E. & M. J., July 19, 1913; p 121; 1500 w; 25c.

——— *Mining and Milling Costs at the Oriental Cons. Mines, China.* (Abstract from company's report).—M. & S. P., Dec. 13, 1913; p 932; 300 w; 20c.

——— *Ray Con. Copper Co.'s Ninth Quarterly Report.*—Mg. & Eng. World, Nov. 22, 1913; p 922; 900 w; 10c.

———. *The Treadwell Group of Mines, Alaska, in* 1913. (Abstract of annual report).—See under gold.

MILL MISCELLANY

Additon A. Sydney. — *Underestimating the Cost of Milling Plants.*—M. & S. P., July 19, 1913; p 88; 4000 w; Aug. 16, 1913; p 263; 6500 w; Aug. 23, 1913; p 301; 5000 w; 60c.

Bowen, H. P.—*Handling Sludge from Diamond-Drill Holes.*—E. & M. J., June 28, 1913; p 1289; 350 w; 25c.

Caetani, Gelasio.—*Economics of Milling.*—Mg. Mag., London, Aug., 1913; p 125; 4700 w*; 35c.

Caetani, Gelasio.—*General Principles of Mill Design.*—Mg. Mag., London, June, 1913; p 435; 5500 w*; 35c.

Carter, H. F.—*The 250-Ton Cyaniding Mill of the Cia. Beneficiadora de Pozos at Pozos, Guanajuato, Mexico.* (Trans. Mex. Inst. Mg. & Met.).—Mex. Mg. Jnl., June, 1913; p 285; 3000 w; 25c.

Franke, Robert.—*Hardinge Mills vs. Chilean Mills.* (Trans. Am. Inst. Mg. Engrs.; abstract).—M. & S. P., Aug. 16, 1913; p 223; 5000 w; 20c.

Goodale, Stephen L.—*Leasing and Low-Grade Milling at Cripple Creek.*—M. & S. P., Aug. 23, 1913; p 297; 5500 w*; 20c.

Goodale, Stephen L.—*Mill Physiology.*—Met. & Chem. Engr., Oct., 1913; p 556; 2700 w; 35c.

Goodale, Stephen L.—*The Argo Cyanide Mill at Idaho Springs.*—E. & M. J., Aug. 30, 1913; p 385; 3300 w*; 25c.

Green, Morris.—*The Action of Oxidizers in Cyaniding.* (Abstract from Jnl. Chem., Met. & Mg. Soc. S. Af.).—E. & M. J., June 21, 1913; p 1233; 3800 w; 25c.

Hofstrand, O. B.—*The Macquisten Tube Flotation Process.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, June 21, 1913; p 1190; 1800 w*; 10c.

Holcombe, J. P.—*Notes on the San Francisco Mill, Pachuca, Mexico.* (Trans. Inst. Mg. & Met.; abstract).—Mex. Mg. Jnl., June, 1913; p 294; 2200 w; 25c.

Holthoff, H. C.—*Corrugated Roll Shells.*—E. & M. J., June 28, 1913; p 1302; 700 w; 25c.

Hore, Reginald, E.—*Nipissing Picking and Jigging Plant, Cobalt, Ont.*—Can. Mg. Jnl., June 15, 1913; p 363; 2700 w*; 35c.

Howard, L. O.—*Cyaniding on the West Dip, Merour, Utah.*—S. L. Mg. Rev., Sept. 30, 1913; p 13; 3000 w; 25c.

Howard, L. O.—*History of Milling at the Geyser-Marion and Sacramento Mines, Utah.*—S. L. Mg. Rev., Aug. 15. 1913; p 9; 5000 w*; 25c.

Howard, L. O.—*Milling at the Silver King, Utah.*—S. L. Mg. Rev., Nov. 30, 1913; p 17; 4000 w*; 25c.

Howard, L. O.—*Treatment of Merour Dumps, Utah.*—S. L. Mg. Rev., July 30, 1913; p 17; 3200 w*; 25c.

Kemp, J. F.—*Artificial Vein Formation in the Tomboy Mill, Telluride, Colo.*—Economic Geol., Sept., 1913; p 543; 8 pp*; 65c.

Klopstock, Paul.—*The Kennedy Mining District, Nevada.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 12, 1913; p 63; 3000 w; 10c.

Lang, Herbert.—*Building a Reduction Plant.*—M. & S. P., July 5, 1913; p 4; 8000 w; 20c.

Letcher, Owen.—*New Treatment Plants in Rhodesia.*—M. & S. P., Nov. 15, 1913; p 761; 4000 w*; 20c.

Letcher, Owen.—*Rand Conditions and Future Outlook.*—M. & S. P., June 28, 1913; p 977; 3500 w*; 20c.

Maclachlan, M. W.—*A system of Keeping Mine and Mill Accounts, Costs and Metallurgical Records.*—Jnl. Chem., Met. & Mg. Soc. of S. Af., Sept., 1913; p 138; 12 pp*; 75c.

Maguire, Don, and Howard, L. O.—*The Romance of a Famous Gold Mine.* (The Mercur Mine, Utah).—S. L. Mg. Rev., June 30, 1913; p 13; 4500 w*; 25c.

Martin, A. H.—*Gold Milling Progress in California.*—Met. & Chem. Engg., Nov., 1913; p 640; 2000 w*; 35c.

McKenzie, C. S.—*Solution Meter at the Belmont Mill, Tonopah, Nev.*—E. & M. J., July 26, 1913; p 165; 300 w*; 25c.

McLeod, A. W.—*Metallurgical Tendencies in Western Australia.* (Abstract from Kalgoorlie Miner).—M. & S. P., Sept. 13, 1913; p 424; 2500 w*; 20c.

Megraw, Herbert A.—*Slimes Agitation for Cyanidation.*—E. & M. J., Dec. 20, 1913; p 1161; 5000 w; 25c.

Megraw, Herbert A.—*The Black Oak Cyanide Plant, California.*—E. & M. J., June 14, 1913; p 1179; 2500 w*; 25c.

Megraw, Herbert A.—*The Gold Road Cyanide Mill, Arizona.*—E. & M. J., July 5, 1913; p 3; 3000 w*; 25c.

Merton, A. M.—*Mill Construction and Estimates of Cost.*—Mg. & Eng. World, Oct. 11, 1913; p 639; 1900 w; Oct. 18, 1913; p 687; 2600 w; Oct. 25, 1913; p 739; 2200 w; Nov. 1, 1913; p 798; 3200 w; Dec. 27, 1913; p 1149; 2000 w; 50c.

Merton, A. M.—*Selection and Operation of Tube Mills*—Mg. & Eng. World, June 14, 1913; 3500 w*; 10c.

Newman, J. Malcolm.—*Notes on Broken Hill Treatment Methods.* (Abstract from Aust. Mg. Stand.).—Mg. & Eng. World, Aug. 23, 1913; p 331; 2500 w; 10c.

Palmer, Leroy A.—*The Wasp No. 2 Mine and Mill, South Dakota.*—S. L. Mg. Rev., June 15, 1913; p 16; 3500 w*; 25c.

Parmalee, H. C.—*Cyanide Practice in the Black Hills, S. D.*—Met. & Chem. Engr., Aug., 1913: p 435; 4500 w; 35c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.*—Mg. & Eng. World, Oct. 25, 1913; p 745; 2200 w*; 10c.

Pulsifer, H. B.—*Lead Smelting at Herculaneum, Missouri.* (Plant of the St. Joseph Lead Co.).—Mg. & Eng. World, Dec. 13, 1913; p 1054; 6500 w*; 10c.

Reid, Fraser.—*Milling at Cobalt, Ontario.* (Paper read at reception tendered Int. Geol. Cong. at Cobalt; abstract).—M. & S. P., Aug. 9, 1913; p 216; 2100 w*; 20c.

Rice, Claude T.—*Canvas Plant of the Federal Lead Co., Missouri.*—E. & M. J., Sept. 13, 1913; p 487; 1500 w*; 25c.

Rice, Claude T.—*Helping Out Bucket Elevators.*—E. & M. J., July 26, 1913; p 165; 300 w*; 25c.

Rice, Claude T.—*Large Reinforced-Concrete Launder.*—E. & M. J., July 5, 1913; p 22; 1800 w*; 25c.

Rice, Claude T.—*Milling in Southeastern Missouri.*—E. & M. J., June 21, 1913; p 1229; 2800 w*; June 28, 1913; p 1283; 5000 w*; July 5, 1913; p 7; 7000 w*; 75c.

Richards, Robert H.—*Great Need of Ore-Dressing Improvements.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Oct. 4, 1913; p 587; 2300 w; 10c.

Rodgers, C. Earl.—*The Motherlode Mill, Salmo, B. C.*—E. & M. J., Sept. 20, 1913; p 529; 3800 w*; 25c.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.* [Lundborg, Dorr & Wilson Plant; New Reliance].—Mg. & Eng. World, July 5, 1913; p 9; 2000 w*; 10c.

Simmons, Jesse.—*The Homestake and Wasp, Two Low-Grade Gold Mines.*—Mg. Mag., July, 1913: p 47; 1500 w*; 35c.

Söhnlein, M. G. F.—*Economical Fine Grinding in Pans.*—E. & M. J., Sept. 27, 1913; p 581; 2500 w*; 25c.

Spaulding, C. F.—*Continuous Agitation with Barren Cyanide Solution.*—M. & S. P., June 21, 1913; p 950; 2500 w*; 20c.

Tait, Peter G.—*The Mines of Tasmania.* [Second article descriptive of the Farrell, Zeehan and Williamsford and other mines].—Mg. & Eng. Rev., Melbourne, May 5, 1913; p. 315; 10,000 w*; 35c.

Tod, Grant H.—*Preparatory Work of the Alaska Gold Mines Company.*—M. & S. P., Aug. 2, 1913; p 184; 900 w*; 20c.

Warwick, A. W.—*Conditions Governing the Washing of Filter Cakes.*—Mg. & Eng. World, June 14, 1913; p 1135; 1800 w*; 10c.

Welton, William S.—*Calculation of Extraction in Concentration.*—E. & M. J., July 12, 1913; p 75; 2100 w; 25c.

Willoughby, A. A.—*The New Mill at the Globe Mine, Dedrick, Cal.*—E. & M. J., Oct. 11, 1913; p 688; 750 w; 25c.

Wood, W. M.—*Mining and Milling at the Vulture Property, Arizona.*—M. & S. P., Dec. 27, 1913; p 1018; 950 w; 20c.

———. *Developments in the Black Hills, South Dakota.*—E. & M. J., Sept. 13, 1913; 1200 w; 25c.

———. *Equipment of the City Deep Mine.*—S. Af. Engg., June, 1913; p 121; 2300 w*; 35c.

———. *Gold Milling in China.*—M. & S. P., Aug. 9, 1913; p 227; 500 w*; 20c.

———. *Report of the Mine Inspector for the Territory of Alaska for the Fiscal Year Ended June 30, 1912.*—U. S. Dept. of the Interior; 24 pp.

———. *The Messina Copper Mine, South Africa.*—S. Af. Mg. Jnl., Nov. 8, 1913; p 233; 3500 w*; Nov. 15, 1913; p 260; 1500 w*; 70c.

———. *The Nipissing Mine, Ontario.*—Mg. Mag., London, June, 1913; p 402; 1200 w; 35c.

———. *The Quartette Mine and Mill, Nevada.*—S. L. Mg. Rev., June 30, 1913; p 18; 1200 w*; 25c.

——— *Work at the Alaska Gastineau.* (Abstract from Hayden-Stone circular).—E. & M. J., Oct. 18, 1913; p 748; 1100 w*; 25c.

CHEMISTRY AND ASSAYING.

CHAPTER XVII.

CHEMISTRY

Allen, A. W.—*Solution Control in Cyanidation.*—M. & S. P., Sept. 30, 1913; p 448; 5200 w; 20c.

Ashley, H. E.—*Technical Control of the Colloidal Matter of Clays.*—Tech. Paper No. 23, U. S. Bureau of Standards, 118 pp*.

Atack, Friderick William.—*Ueber die Anwendung des a-Benzildioxims zum Nachweis und zur Bestimmung kleiner Mengen von Nickel.* [On the use of a-benzildioxime for the detection and determination of small quantities of nickel].—Chemiker-Ztg., June 28, 1913; p 773; 600 w; 35c.

Baskerville, Charles.—*The Chemistry of Tungsten, and the Evolution of the Tungsten Lamp.*—Trans. N. Y. Electrical Soc., New Series, 1912, No. 1; 25 pp; 60c.

Bates, P. H., Phillips, A. J., and Wig, Rudolph J.—*Action of the Salts in Alkali Water and Sea Water on Cements.*—Technologic Paper No. 12 Bureau of Standards, U. S. Dep. of Commerce; 157 pp*.

Becker, J., and Robertson, L. B.—*Production and Industrial Application of By-product Coke-Oven Gases.* (Paper read before Chicago Sec. Am. Chem. Soc.).—Jnl. Ind. & Eng. Chem., June, 1913; p 491; 7000 w; 65c.

Bement, A.—*Analysing Boiler Tests.*—Power, June 24, 1913; p 912; 1000 w*; 20c.

Bergius, Dr. F.—*Production of Coal from Cellulose at High Temperatures and Pressure.* (Paper read before London Sec. Soc. Chem. Ind.; abstract).—Ir. & C. Tr. Rev., May 30, 1913; p 887; 2000 w; 35c.

Bernewitz, M. W. von.—*Lead Salts in Cyanidation.*—M. & S. P., Nov. 15, 1913; p 757; 4500 w; 20c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice, 1910 to 1913.*—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Block, Berthold.—*Auslaugung und Trennung.* [Leaching and separation of solids from liquids].—Chemiker-Ztg., Nov. 20, 1913; p 1425; 3400 w*; 35c.

Brislee, F. J.—*The Density of Aluminum.*—Trans. Faraday Soc., London, July, 1913; p 162; 12 pp*; 50c.

Brogdon, J. S.—*The Manufacture of Acid Phosphate.*—Am. Fertilizer, Sept. 6, 1913; p 25; 4000 w; 25c.

Brokaw, A. D.—*The Precipitation of Gold by Manganous Salt* (Paper presented at Milwaukee meeting of Am. Chem. Soc.).—Jnl. Ind. & Eng. Chem., July, 1913; p 560; 1000 w; 65c. M. & S. P., July 26, 1913; p 149; 1000 w*; 20c.

Brooks, G. S.—*Formation of Zinc Ferrite in Roasting Blende* (Abstract from Bull. Am. Inst. Mg. Engrs., May, 1913).—Met. & Chem. Eng., July, 1913; p 418; 700 w; 35c.

Browne, C. A.—*Cyanide from Residue of Sugar Mills.* (Abstract from Columbia Sch. of Mines Quar.).—M. & S. P., Aug. 2, 1913; p 186; 500 w; 20c.

Brownson, E. E.—*The Determination of Arsenic and Antimony.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 27, 1913; p 1155; 3200 w; 10c.

Buck, D. M.—*Copper in Steel; The Influence on Corrosion.*—Jnl. Ind. & Engg. Chem., June, 1913; p 447; 4000 w*; 65c.

Buisson, Albert, and Delpy, Max.—*Ueber die Fabrikation der rauchlosen Pulver in den verschiedenen Staaten.* [On the manufacture of smokeless powder in different countries] (From "Le Problem des Poudres").—Zts. Schiess & Sprengstoffw., Aug. 1, 1913; p 285; 3500 w; Aug. 15; p 307; 2000 w; 70c.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burgess, Charles F., and Aston, James.—*Influence of Various Elements on the Corrodibility of Iron.*—Jnl. Ind. & Engg. Chem., June, 1913; p 458; 5500 w; 65c.

Burgess, G. K., and Crowe, J. J.—*The Critical Ranges A_2 and A_3 of Pure Iron.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2537; 54 pp*; 35c.

Burns, Daniel.—*Safety in Coal Mines, a Textbook of Fundamentals for Firemen and Other Workers in Mines.*—London, Blackie & Son; 158 pp*; $1 (book).

Burrell, George A., and Seibert, Frank M.—*Apparatus for Gas-Analysis Laboratories at Coal Mines.*—Tech. Paper 14, U. S. Bureau of Mines; 24 pp*.

Burrell, George A., and Seibert, Frank M.—*The Condensation of Gasoline from Natural Gas.*—Jnl. Ind. & Engg. Chem., Nov., 1913; p 895; 4500 w; 35c.

Carter, Thomas.—*Ueber die Fabrikation des Hexanitrodiphenylamins;* [On the manufacture of hexanitrodiphenylamine].—Zts. Schiess & Sprengstoffw., June 1, 1913; p 205; 1300 w; 35c.

Chance, Edmund M.—*The Earning Power of Chemistry.*—Coll'y Engr., July, 1913; p 693; 1800 w; 35c.

Charitschkow, R.—*Zur Teerbestimmung im Petroleum und seinen Derivaten.* [On the determination of tar in petroleum and its derivatives] (Translated from Neftjanoje djelo.)—Chemiker & Tech.-Ztg., Sept. 15, 1913; p 141; 800 w; 35c.

Chauvenet, Regis.—*Hydrometallurgy; Joys of Its Theory, Woes of Its Practice.*—Met. & Chem. Engr., Sept., 1913; p 486; 7500 w; 35c.

Cirkel, Fritz.—*Rapport sur les Dépôts de Fer Chromé des Cantons de l'Est de la Province de Quebec.* [Report in the deposits of chromite of the eastern cantons of the province of Quebec].—Canada Dep. of Mines, Mines Branch; 145 pp*.

Clark, Eugene B.—*The Treatment of Blast Furnace Flue Dust.* (Paper read before Am. Iron & Steel Inst.).—Iron Age, Nov. 13, 1913; p 1108; 5500 w; 30c.

Classen, Alexander.—*Quantitative Analysis by Electrolysis.* (Translated from the

Fifth German edition by Wm. T. Hall). 308 pp. $2.50 (book).

Crosse, Andrew F.—*The Action of Mineral Sulphates and Arsenates on Cyanide Solutions.* (Trans. Met. & Mg. Soc. S. Af.; abstract).—Mex. Mg. Jnl., June, 1913; p 278; 2200 w; 25c.

Cushman, Allerton S., and Coggeshall, George W.—*The Production of Available Potash from the Natural Silicates.* (Abstract of paper read before Int. Cong. of Appl. Chem.).—Chem. Engr., June, 1913; 221; 4500 w; 35c.

Donath, Ed., and Höfer, H. v.—*Das Erdölvorkommen in Raibl* (Kärnten). [The occurrence of petroleum in Raibl, Carinthia].—Petroleum, Aug. 20, 1913; p 1493; 3000 w; 60c.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Dreaper, W. P.—*Reactions in Aqueous and Colloidal Systems.*—Jnl. Soc. Chem. Ind., London, July 15, 1913; p 678; 6 pp*; 65c.

Eilers, A.—*Bag-House at Omaha Plant of A. S. & R. Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 245; 3000 w*; 10c.

Eilers, A.—*The Bag-House at the Murray Smelter, Utah.* (Proceedings Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, July 5, 1913; p 12; 3500 w*; 10c.

Emmons, W. H.—*How Ores Are Enriched for Man's Use.* (Abstract from Bull. 529, U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 9, 1913; p 256; 500 w; 10c.

Emmons, William Harvey.—*The Enrichment of Sulphide Ores.*—Bull. 529, U. S. Geol. Surv.; 260 pp.

Engler, C.—*Die Chemie und Physik des Erdöles.* [The chemistry and physics of petroleum].—Chemiker & Tech.-Ztg., July 1, 1913; p 99; 1600 w; 35c.

Engler, C. and Ubbelohde, L.—*Ueber das Edeleanusche Verfahren der Raffination von Erdöl mit Schwefeldioxyd;* [On the Edeleanu method for refining petroleum with sulphur dioxide] (From Zts. angewandte Chemie).—Petroleum, April 16, 1913; p 919; 3700 w*; 60c.

Gillett H. W.—*The Chemist and Scientific Management* (Paper presented before Cornell Sec. Am. Chem. Soc.).—Jnl. Ind. & Eng. Chem., July, 1913; p 593; 11,500 w; 65c.

Glaser, Fritz.—*Ueber die Gewinnung radioaktiver Körper aus Thorium.* [On the recovery of radio-active bodies from Thorium].—Chemiker-Ztg., Sept. 16, 1913; p 1105; 1300 w; 35c.

Goblet, Alfred.—*Die Fabrikation des Benzols aus Koksofengasen.* [The manufacture of benzol from coke-oven gases].—Montanist. Rundschau, Aug. 1, 1913; p 728; 1800 w*; Aug. 16; p 772; 200 w*; 70c

Green, Morris.—*The Action of Oxidisers in Cyaniding.* (Trans. Chem. Met. & Mg. Soc. S. Af.; abstract).—Mex. Mg. Jnl., June, 1913; p 289; 4500 w; 25c.

Grünwald, B.—*Ein neues Verfahren zur Untersuchung und zum Studium des Portlandzements.* [A new method for the investigation and study of Portland cement].—Chemiker-Ztg., July, 1913; p 885; 1200 w; 35c.

Guglialmelli, Luis.—*Acción de la Plata Coloidal sobre los Cloruros de Oro y de Platino.* [Action of coloidal silver on the chlorides of gold and platinum. A new method for obtaining coloidal gold].—Anales Soc. Cient. Argentina, Jan., 1913; p 41; 2800 w; $1.75.

Gutbier, A.—*Zur Kenntnis des Osmiums.* [On the knowledge concerning osmium].—Chemiker-Ztg., July 17, 1913; p 857; 3500 w; 35c.

Hatschek, Emil.—*Physics and Chemistry of Colloids.* 94 pp. $1 (book).

Hauser, Enrique.—*Sobre el Analisis de los Gases Combustible por Explosion.* [On the analysis of combustible gases by explosion] (Note presented to the Spanish Society of Physics & Chem.).—Revista Minera, June 1, 1913; p 267; 1800 w; 35c.

Helbig, A. B.—*Rauchgasanalyse und Koksverlust beim Drehrohrofen.* [Flue-gas analysis and coke loss in revolving tube furnace].—Tonindustrie-Ztg., July 26, 1913; p 1131; 1000 w; 35c.

Hempel, Walter.—*Gasanalytische Methoden.* [Methods for gas analysis].—Braunschweig, Germany; Friedr. Vieweg & Sohn; 420 pp*; $4 (book).

Heymann, L.—*The Quantitative Determination of Nitrous Fumes in Firing (Cheesa) Sticks.*—Jnl. Chem., Met. & Mg. Soc. S. Af., April, 1913; p 464; 2000 w*; 50c.

Hinrichsen, F. W., and Taczak, S.—*Verfahren zur Prüfung von Brennstoffen.* [Method for testing fuels].—Centralblatt Hütten & Walzwerke, July 5, 1913; p 367; 2300 w; 35c.

Hirshberg, L. K.—*Chemical and Metallurgical Miscellany.*—Mg. & Eng. World, Dec. 13, 1913; p 1067; 2300 w; 10c.

Hoffman, H. O.—*General Metallurgy.*—New York; McGraw-Hill Book Co.; 909 pp*; $6 (book).

Hundeshagen, Franz.—*Zur Alkalimetrie des Magnesium-Ammonium-Phosphates und Acidimetrie des Ammonium - Phosphor-Molybdats.* [On the alkalimetry of magnesium-ammonium phosphate and the acidimetry of ammonium-phosphor molybdate].—Zentralblatt Kunstdünger-Ind., May 15, 1913; p 205; 2600 w; 35c.

Jänecke, Dr.—*Vorschläge zur Fortsetzung der van't Hoffschen Forschungen.* [Proposals for the continuation of the van't Hoff investigations].—Kali, Aug. 15, 1913; p 393; 2000 w*; 35c.

Kantorowicz, H.—*Ueber Erdöl und Erdwachs.* [On petroleum and mineral wax].—Chemiker-Ztg., Nov. 13, 1913; p 1394; 1800 w; 35c.

Koch, Berthold.—*Ueber Messinganalyse.* [On the analysis of brass].—Chemiker-Ztg., July 22, 1913; p 873; 2400 w; 35c.

Kohlmeyer, Ernst J.—*Ueber Bleioxyd- und Eisenoxydulferrite;* [On lead-oxide and ferrous oxide ferrites] (last part).—Metall & Erz, May 22, 1913; p 483; 3500 w*; 50c.

Komarowsky, A.—*Ueber eine empfindliche Reaktion auf Molybdän.* [On a sensitive reaction for molybdenum].—Chemiker-Ztg., Aug. 9, 1913; p 957; 200 w; 35c.

Kühl, Hans.—*Die Messung des Kohlenverbrauchs von Drehrohröfen durch die Rauchgas-Analyse;* [The measurement of coal consumption by analysis of the chimney gases].—Tonindustrie-Ztg., June 21, 1913; p 949; 3000 w; 35c.

Lamplough, F. E. E., and Hill, A. Muriel.—*The Slow Combustion of Coal Dust and Its Thermal Value.* (Abstract of paper read before Inst. Mg. Engrs., London).—Coll'y Guard., June 6, 1913; p 1212; 2700 w; 35c.

Law, Leroy M.—*Empiracal Requirements*

in Asphalt Specifications.—Jnl. Ind. & Engg. Chem., Dec., 1913; p 1021; 4000 w; 65c.

Little, Arthur.—*Report of Official Chemists of the American Institute of Metals,* 1913.—Paper read at Chicago meeting; 11 pp.

Lodge, Oliver.—*Continuity vs. Atomism: The Limitations of the Scope of Physics and Chemistry.* (Presidential address before British Association for Advancement of Science).—Met. & Chem. Engr., Oct., 1913; p 545; 6000 w; 35c.

Mackey, Wm. McD.—*Rapid Method of Testing Suction Gas Fuels for Liability to Clog Gas Engine Valves.*—Jnl. Soc. Chem. Ind., May 31, 1913; 1500 w; 65c.

Marc, R.—*Ueber den Einfluss von Kolloidzusätzen auf die Kathodischen und Anodischen Vorgänge bei ded Elektrolyse von Metallsalzlösungen (Blei und Zink) I;* [Effect of Colloids on Electrolytic Deposition of Lead and Zinc].—Zeit. Elektrochemie, June 1, 1913; p 431; 15 pp*; 45c.

Mathewson, E. P.—*Development of the Basic-Lined Converter for Copper Mattes.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 2, 1913; p 212; 750 w*; 10c.

Matignon, Camille.—*Le Problème de la Fixation Industrielle de l'Asote.* [The problem of industrial fixation of nitrogen] (From Société l'Encouragement pour l'Industrie Nationale).—Le Phosphate, Sept. 1, 1913; p 829; 1600 w; 35c

Meissner, G.—*Studien über Nitrierung der Cellulose und Zersetzung der Nitrocellulose durch Säuren und Alkali.* [Studies on the nitration of cellulose and the decomposition of nitrocellulose by means of acids and alkalis].—Zts. Shiess & Sprengstoffw., July, 1913; p 252; 3200 w; July 15; p 269; 1900 w; 70c.

Merriam, E. S., and Birchby, J. A.—*Methods for the Examination of Natural Gas for the Production of Gasoline.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 824; 4500 w; 65c.

Merton, A. M.—*Zinc-Dust Precipitation of Gold and Silver.*—Mg. & Eng. World, Sept. 6, 1913; p 429; 2500 w; 10c.

Moldenhauer, W., and Anderson, J.—*Ueber die Elektrolytische Darstellung von Calciumlegierungen und Calcium;* [Electrolytic preparation of calcium and its alloys].—Zeit. Elektrochemie, June 1, 1913; p 444; 2000 w*; 45c.

Norman, A. Dubois.—*The Protection of Iron and Steel by Paint Films.*—Jnl. Ind. & Engg. Chem., Dec., 1913; p 968; 3000 w*; 65c.

Norton, Consul.—*La Grande Industrie Chimique de Belgique.* [The great chemical industry of Belgium] (Translation from U. S. Consular Report).—Le Phosphate, June 9, 1913; p 1200 w; 35c.

Ogrodzinski, W., and Pilat, St. von.—*Molekulargewichtsbestimmungen bei Benzin.* [Molecular weight determinations of benzine].—Petroleum, June 8, 1913; p 1182; 1000 w; 60c.

Patten, A. J., and Marti, W. C.—*A Simple Method for Preparing Neutral Ammonium Citrate Solution.*—Jnl. Ind. & Eng. Chem., July, 1913; p 567; 1000 w; 65c.

Portevin A.—*Contribution a l'Étude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys].—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Reichel, J.—*Ueber die Gewinnung von Ammoniumsulfat mit Hilfe des in den Kokereigasen enthaltenen Schwefels.* [On the recovery of ammonium sulphate with the aid of the sulphur contained in coke-oven gases] (From Glückauf).—Bergbau, July 31, 1913; p 498; 1000 w; 35c.

Reichinstein, D., and Zieren, A.—*Ueber den Einfluss der Zusätze von Freier Schwefelsäure, sowie ihrer Neutralsalze zum Elektrolyten auf die Kathodische Polarisation der Cu-CuSO$_4$ Elektrode;* [On the influence of additions of free sulphuric acid, as well as its neutral salts, to the electrolyte on the cathodic polarization of the Cu-CuSO$_4$ electrode].—Zts. Elektrochemie, July 1, 1913; p 530; 1500 w*; 45c.

Richardson, Clifford.—*Characteristics and Differentiation of Native Bitumens and Their Residuals.*—Jnl. Ind. & Engg. Chem., June, 1913; p 462; 6000 w; 65c.

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Ruder, W. E.—*Intergranular Cement in Metals.*—Jnl. Ind. & Engg. Chem., June, 1913; p 462; 6500 w*; 65c.

Rybák, O.—*Der Einfluss des Methans auf den menschlichen Organismus.* [The influence of methane on the human organism].—Montanistische Rundschau, Oct. 16, 1913; p 986; 330 w; 35c

Rzehulka, A.—*Die Untersuchung der Steinkohle in der Praxis des Kokereibetriebes mit Gewinnung der Nebenprodukte.* [The examination of coal in coking with the recovery of by-products].—Zts. Oberschles. Berg. & Hüttenm. Vereins, June, 1913; p 243; 6000 w*; 50c.

Schenck, Rudolf.—*Ueber die wissenschaftlichen Grundlagen der Röstprozesse.* [On the scientific basis of roasting processes] (Abstract of paper read before Soc. of German Chemists).—Chemiker-Ztg., Sept. 23, 1913; p 1143; 500 w; 35c.

Schobner, Franz.—*Füllkörper für Reaktionstürme und Wärmspeicher.* [Filling bodies for reaction towers and heat regenerators].—Tonindustrie-Ztg., Sept. 18, 1913; p 1429; 3000 w*; 35c.

Scott, M.—*Des Minerais de Fer Chromifères de Grèce.* [The chromic iron ores of Greece] (Abstract from Iron & Steel Inst.).—L'Echo des Mines, May 26, 1913; p 600; 800 w; 35c.

Shimer, W. R., and Kichline, F. O.—*Over Oxidation of Steel.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2361; 19 pp*; 35c.

Simmersbach, Oskar.—*Chemische Umsetzungen während der Bildung der Steinkohle.* [Chemical transpositions during the formation of coal].—Berg & Hüttenmännische Rundschau, Nov. 5, 1913; p 29; 4500 w; Nov. 20, 1913; p 43; 5000 w; 70c.

Smoot, A. M.—*Suggestions on the Platinum-Palladium Assay.*—E. & M. J., Dec. 20, 1913; p 1175; 400 w; 25c.

Smyth, C. H., Jr.—*The Chemical Composition of the Alkaline Rocks and Its Significance as to Their Origin.*—Am. Jnl. of Sci., July, 1913; p 33; pp 15; 65c.

Surr, Gordon.—*Solutions of Definite Specific Gravity.*—Mg. & Eng. World, Dec. 13, 1913; p 1075; 725 w; 10c.

Tarugi, N.—*Utilization of Highly Siliceous Iron and Manganese Minerals.* (From Chemiker-Ztg.).—E. & M. J., July 12, 1913; p 64; 250 w; 25c.

Thiele, F. C.—*Ueber Säureasphalt von der Erdölrienigung.* [On acid asphalt from the refining of petroleum]. — Chemiker-Ztg., July 15, 1913; p 84; 900 w; 35c.

Tillmans, J., and Heublein, O.—*Ueber die Bestimmung von Chlor in naturlichen Wässern.* [On the determination of chlorine in natural waters] (Communication from the chemical-hygienic division of the Municipal Hygienic Inst., Frankfort on Main, Germany).—Chemiker-Ztg., July 29, 1913; p 901; 3000 w*; 35c.

Van Ells, H. T.—*Mining Cost Account of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Wartenberg, H. von.—*Ueber Metaldampfdrucke, I;* [On the vapor tensions of metals].—Zts. Elektrochemie, June 15, 1913; p 482; 3500 w*; 45c.

Wartenberg, H. von.—*Ueber Silberoxyd* [On silver oxide].—Zts. Elektrochemie, June 15, 1913; p 489; 1200 w*; 45c.

Wells, Roger C.—*A New Occurrence of Cuprodescloizite.*—Am. Jnl. of Sci., Dec., 1913; p 636; 3 pp; 65c.

Wirth, Fritz.—*Ueber die Gewinnung der Thorerde aus dem Monazitsand mit Hilfe der Unterphosphorsäure sowie über den Nachweis des Cers mit einer alkalischen Ammontartratlösung.* [On the recovery of thoria from monazite sand with the aid of hypo-phosphoric acid; also on the detection of cerium with an alkaline ammonium-nitrate solution].—Chemiker-Ztg., June 28, 1913; p 773; 800 w; 35c.

Wright, Fred. Eugen.—*A Graphical Plot for Use in the Microscopical Determination of the Plagioclase Feldspars.*—Am. Jnl. Sci., Nov., 1913; p 540; 3 pp; 65c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institute der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School Aachen]; Vol. 5.—Halle, 1913; 160 pp*; $5; (book).

——. *Chemical Treatment of Low-Grade Ores.*—Mg. & Eng. World, Sept. 20, 1913; p 499; 600 w; 10c.

——. *Desulphurizing Cobalt (Ont.) Ores.* [Editorial].—M. & S. P., Sept. 27, 1913; p 483; 1000 w; 20c.

——. *Die chemische Wirkung des Titans auf dem Stahl.* [The chemical action of titanium on steel].—Südwestdeutsche Industrieztg., Sept. 13, 1913; p 542; 1500 w; 35c.

——. *Die Wirkung von Tonerde auf Erdöl.* [The action of alumina on petroleum] (Translated from Neftjanoje djelo).—Chemiker & Tech.-Ztg., Sept. 16, 1913; p 142; 600 w; 35c.

——. *Discoveries in Alumino-Thermal Reactions.*—Mg. & Eng. World, June 14, 1913; 1127; 800 w; 10c.

——. *Flüssige Kohle und künstliche Diamanten.* [Liquid carbon and artificial diamonds].—Bergbau, Dec. 4, 1913; 3500 w; 35c.

——. *Jahresbericht des Internationalen Komitees der Atomgewichte* 1914. [Annual report of the International Committee on Atomic Weights, 1914]. — Chemiker-Ztg., Nov. 27, 1913; p 1453; 800 w; 35c.

——. *Le Mystère de la Catalyse.* [The mystery of catalysis].—Echo des Mines, Sept. 11, 1913; p 957; 1500 w; 35c.

——. *Procédé Bourgeot pour Minerais de Zinc et de Cuivre.* [Bourgeot process for treatment of ores of zinc and copper.]—L'Echo des Mines, Aug. 14, 1913; p 891; 1000 w; 35c.

——. *Processo Bourgeot per Minerali di Zinco e Rame.* [The Bourgeot process for ores of zinc and copper].—Rasse. Min. Metallurgica & Chim., Sept. 1, 1913; p 87; 800 w; 35c.

——. *The Index to Chemical Literature* (Editorial on U. S. Patent Office Index).—Jnl. Ind. & Eng. Chem., July, 1913; p 534; 1200 w; 65c.

——. *The Reduction of Lead-Copper Mattes in the Electric Furnace.* (Abstract from Proc. Inst. for Metal Smelting & Electromet. at Tech. Acad. of Aix-la-Chapelle).—Mg. & Eng. World, Aug. 2, 1913; p 217; 500 w; 10c.

——. *Transactions of the American Institute of Chemical Engineers, Vol. V,* 1912.—New York; D. Van Nostrand Co.; 284 pp*; $6. (book).

——. *Transmutation of the Elements* (Editorial).—Mg. & Eng. World, July 19, 1913; p 98; 300 w; 10c.

——. *Zinc Sulphite Solutions.* (From U. S. patent to H. Rees and H. L. Sulman for bisulphate process of zinc extraction).—E. & M. J., Nov. 29, 1913; p 1017; 750 w*; 25c.

——. *Zur Chemie des Eisens.* [On the chemistry of iron].—Südwestdeutsche Industrie-Ztg., Oct. 4, 1913; p 590; 1200 w; 35c.

ASSAYING AND ANALYSIS

Bird, Frank A.—*Combined Method of Analysis for Constituents of Zinc Ores.*—M. & S. P., July 5, 1913; p 13; 2000 w; 20c.

Blum, William.—*Determination of Manganese as Sulphate and by Sodium Bismuthate Method.*—Bull. Vol. 8, No. 4, Bureau of Standards, U. S. Dep. of Commerce and Labor; p 715; 25 pp.

Brandt, L.—*Ueber die jodometrische Bestimmung des Arsens in Eisen und Eisenerzen nach Fällung mit unterphosphoriger Säure.* [On the iodometric determination of arsenic in iron and iron ores after precipitation with hypophosphous acid].—Chemiker-Ztg., Nov. 25, 1913; p 1445; 2500 w; Dec. 2; p 1471; 1000 w; 70c.

Cain, J. R., and Tucker, F. H.—*Determination of Phosphorus in Steels Containing Vanadium.*—Technologic Paper 24, Bureau of Standards, Dep. of Commerce; 12 pp.

Chase, R. E., Jr.—*Quick Calculation of Assay Charges.*—E. & M. J., Dec. 20, 1913; 350 w*; 25c.

Demorest, D. J.—*The Analysis of Alloys of Lead, Tin, Antimony and Copper.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 842; 2000 w; 65c.

Döring, Th.—*Forschritte auf dem Gebiete der Metallanalyse im Jahre* 1912. [Progress in metal analysis in 1912].—Chemiker-Ztg., Aug. 12, 1913; p 961; 1500 w; 35c. (Continued).

Drosser, J. H.—*Determination of Copper by the Permanganate Method.*—Mex. Mg. Jnl., June, 1913; p 280; 1200 w; 25c.

Dures, Robert.—*Notes on the Assay of Mine Samples.*—Jnl. Chem., Met. & Mg. Soc. S. Af., June, 1913; p 608; 2700 w; 65c.

Fleming, William R.—*Determination of Oxygen in Iron and Steel.* (Paper read before Am. Soc. for Test. Materials).—Iron Age, June 26, 1913; p 1540; 4000 w*; 30c.

Fox, Paul J.—*The Titration of Calcium and Magnesium in the Same Solution.*—Jnl. Ind. & Engg. Chem., Nov., 1913; p 910; 3500 w; 35c.

Franklin, Frederick H.—*A Fusion Meth-*

od for the Determination of Sulphur in Iron and Steel.—Jnl. Ind. & Eng. Chem., Oct., 1913; p 839; 4000 w; 65c.

Fremont, C.—***New Method for Mechanical Tests on Cast Iron.*** (Abstract of paper read before Int. Cong. Appl. Chem.).—Chem. Engr., June, 1913; p 237; 2000 w*; 35c.

Gilchrist, Elizabeth and Cumming, Alexander Charles.—*Note on the Electrolytic Determination of Copper in Solutions Containing Nitric Acid.*—Trans. Faraday Soc., July, 1913; p 186; 3 pp; 75c.

Goy, S.—*Die gewichtsanalytische Bestimmung des Calciums als Calciumoxalat.* [The gravimetric determination of calcium as calcium oxalate]. (Communication from the Agricultural Chemical Inst. of the University of Königsberg).—Chemiker-Ztg., Nov. 1, 1913; p 1337; 1000 w; 35c.

Gooch, F. A., Reckert, F. C., and Kuzirian, S. B.—*The Dehydration and Recovery of Silica in Analysis.*—Am. Jnl. of Sci., Dec., 1913; p 598; 7 pp; 65c.

Grard, C.—*Research on the Hardness of Steel.* (Abstract of paper presented before Int. Assn. of Test. Materials).—Chem. Engr., June, 1913; p 239; 5750 w*; 35c.

Gray, James, and Toombs, Chris.—*The Determination of Gold in the Presence of Iridium and Allied Metals in Materials Such as Black Sand.* [Winners of prize offered by Witwatersrand Co-Operative Smelting Works].—Jnl. Chem., Met. & Mg. Soc. S. Af., July, 1913; p 2; 7 pp; 75c.

Greenwood, H. D.—*Assay Method for Palladium and Platinum.*—E. & M. J., Dec. 20, 1913; p 1175; 1000 w; 25c.

Haldane, W. G.—*Crude Oil for the Assay Furnace.*—E. & M. J., Dec. 6, 1913; p 1073; 1200 w*; 25c.

Hall, E. J., and Drury, C. W.—*Assay of Gold and Silver by Iron-Nail Method.* (Abstracted from Bull. Am. Inst. Mg. Engrs., June, 1913).—E. & M. J., Dec. 13, 1913; p 1125; 2300 w; 25c.

Hibbard, P. L.—*A Study of the Pemberton-Kilgore Method for Determination of Phosphoric Acid.*—Jnl. Ind. & Engg. Chem., Dec., 1913; p 998; 8500 w; 65c.

Hunt, H. D.—*Laboratory Methods in Use at the Miami Copper Co.* (Abstract from Colo. Sch. of Mines Mag.).—Mex. Mg. Jnl., July, 1913; p 339; 7000 w; 35c.

Johnson, C. M.—*The Determination of Phosphorus in Ferro-Tungsten, Etc.* (Abstract from Jnl. Ind. & Engg. Chem.).—Mg. & Eng. World, Oct. 11, 1913; p 653; **1200 w; 10c.**

König, Heinrich.—*Ueber die Bestimmung von Kobalt und Uran im Stahl.* [On the determination of cobalt and uranium in steel].—Chemiker-Ztg., Sept. 16, 1913; p 1106; 800 w; 35c.

Lee, Richard Edwin, Uhlinger, Roy H., and Amon, Frank O.—*Method of the Qualitative Determination of the Zinc Group.* (Abstract from Jnl. Am. Chem. Soc., Vol. 35).—Mg. & Eng. World, July 12, 1913; p 56; 1300 w; 10c.

Lejeune, Arthur S.—*Mine Sampling and Ore Valuation, Witwatersrand.* (Third article).—S. Af. Mg. Jnl., May 10, 1913; p 263; 2500 w; 35c.

Lenher, Victor.—*Volumetric Determination of Gold.* (Abstract from Jnl. Am. Chem. Soc.).—M. & S. P., June 21, 1913; p 942; 2500 w; 20c.

Liddell, Donald M.—*Bone Ash vs. Cement Cupels.*—E. & M. J., Aug. 16, 1913; p 309; 600 w; 25c.

Liddell, Donald M.—*Salting Assays by Salted Cupels.*—E. & M. J., Nov. 1, 1913; p 835; 600 w; 25c.

Lord, N. W., Holmes, J. A., Stanton, F. M. Fieldner, A. C., and Sanford.—*Analysis of Coals in the United States, with Descriptions of Mine and Field Samples Collected Between July 1, 1904, and June 30, 1910.*—Bull. 22, U. S. Bureau of Mines; Part 1—Analyses, 321 pp; Part 2—Description of Samples, 1200 pp.

Lord, N. W.—*The Value of Coal Analyses.* (Abstract of address on Fuels of the United States).—Colly. Engr., Nov., 1913; p 242; 2400 w; 35c.

Lord, Nathaniel Wright, and Demorest, Dana J.—*Metallurgical Analysis, Third Edition.*—New York, McGraw-Hill Book Co.; 334 pp*; $2.50 (book).

Mackechnie, R. D.—*Notes on Assay Standards.*—Mg. Mag., Nov., 1913; p 373; 600 w; 35c.

Marantonio, Mario.—*Sulla Determinazione Rapida del Carbonio negli Acciai Speciali.* [On the rapid determination of carbon in special steels].—Metallurgia Ital., Aug. 31, 1913; p 543; 500 w*; $1.

McBride, R. S.—*Standardization of Potassium Permanganate Solution by Sodium Oxalate.*—Bull. Vol. 8, No. 4, Bureau of Standards, U. S. Dep. of Commerce and Labor; p 612; 31 pp*.

McCabe, C. R.—*Colorimetric Method for Titanium in Iron and Steel.*—Jnl. Ind. & Engg. Chem., Sept., 1913; p 735; 2000 w; 65c.

McCabe, C. R.—*Vanadium in Steel by the Hydrogen Peroxide Color Method.*—Jnl. Ind. & Engg. Chem., Sept., 1913; p 736; 1600 w; 65c.

Mennicke, Hans.—*Die quantitativen Untersuchungsmethoden des Molybdäns, Vanadiums und Wolframs sowie deren Erze, Stähle, Legierungen und Verbindungen.* [The methods for the quantitative investigation of molybdenum, vanadium and tungsten as well as their ores, steels, alloys and compounds].—Berlin, 231 pp; $3.25 (book).

Merton, A. M.—*Specifications and Tests for Zinc Dust.*—Mg. & Eng. World, June 28, 1913; p 1227; 2400 w; 10c.

Milford, Leslie Russell.—*Recent Analyses of the Saratoga Mineral Waters.*—Jnl. Ind. & Eng. Chem., July, 1913; p 557; 1600 w*; 65c.

Mitscherlich, E. A., and Simmermacher.—*Zur Düngemittelanalyse.* [Concerning fertilizer analysis].—Zentral-Blatt Kunstdünger-Ind., Oct. 15, 1913; p 430; 1100 w; 35c.

Noyes, W. A.—*Standard Method of Coal Analysis.* (Preliminary report of Committee on Coal Analysis of Am. Soc. for Testing Materials and Am. Chem. Soc.).—Chem. Engr., July, 1913; p 7; 6000 w; Aug., 1913; p 45; 10,000 w; 70c.

Pickard, J. A.—*Determination of Oxygen in Iron and Steel.* (Carnegie Scholarship Memoir to the Iron & Steel Inst., London, 1913; excerpts).—Iron Age, Aug. 7, 1913; p 290; 2000 w; 30c.

Precht, H.—*Berechnung wer Chlormagnesiummenge, welche bei der Verarbeitung von Kalirohsalzen als Endlauge gewonnen wird;* [Calculation of the amount of magnesium chloride obtained as end liquor in the treatment of crude potash salts].—Kali, July 1, 1913; p 319; 1400 w; 35c.

Pulsifer, H. B.—*The Microstructure of Metals.*—Chem. Engr., June, 1913; p 228; 5500 w*; 35c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second

Edition).—New York and London; 452 pp*; $4.50; (book).

Rosa, E. B., Vinal, G. W., and McDaniel, A. S.—*The Silver Voltameter—Part III. Second series of Quantative Experiments and the Preparation and Testing of Silver Nitrate.*—Reprint No. 201 from Bull. Bureau of Standards, Vol. 9; 60 pp.

Sharwood, W. J.—*Methods Employed in the Analysis of Zinc Dust.* (Trans. Chem. Met. & Mg. Soc. S. Af.; abstract).—Mex. Mg. Jnl., June, 1913; p 288; 1300 w; 25c.

Sidener, C. F., and Skartveldt, P. M.—*A Method for the Determination of Phosphorus in Vanadium Steel and Ferro-Vanadium.*—Jnl. Ind. & Engg. Chem., Oct., 1913; p 838; 1500 w; 65c.

Smith, E. A.—*The Sampling and Assay of the Precious Metals: Comprising Gold, Silver, Platinum, and the Platinum Group Metals in Ores, Bullions and Products.* 460 pp. $4.50 (book).

Surr, Gordon.—*Care and Attention to Details Necessary in Laboratory Work.*—Mg. & Eng. World, Nov. 1, 1913; p 780; 1200 w; 10c.

Sznajder, I. — *Schnelle Schwefelbestimmungsmethode in Kieselbränden.* [Quick method for determining sulphur in pyrites cinder].—Chemiker-Ztg., Sept. 16, 1913; p 1107; 300 w; 35c.

Trenkner.—*The Quantitative Determination of the Precious Metals, Gold, Silver and Platinum.* (Translated from Metallurgie).—Met. & Chem. Engg., Oct., 1913; p 567; 2000 w; 35c. Mg. & Eng. World, Nov. 8, 1913; p 836; 1300 w; 10c.

Teed, P. Litherland.—*The Determination of Water in Coal.* (Trans. Inst. Mg. & Met.; abstract).—Coll'y Guard., May 30, 1913; p 1115; 3000 w*; 35c. S. Af. Engg., June, 1913; 2500 w*; 35c.

Tweed, F. Litherland.—*The Determination of Water in Coal.* (Paper read before Inst. Mg. & Met.; abstract).—Coal Tr. Bull., Sept. 15, 1913; p 32; 2400 w; 25c.

Verwey, A.—*Ueber die Probenahme und die Beurteilung von calciniertem Magnesit.* [On the sampling and valuation of calcined magnesite].—Chemiker-Ztg., July 8, 1913; p 813; 700 w; 35c.

Walker, Wm. H., and Patrick, Walter A.—*The Determination of Oxygen in Iron and Steel by Reduction in an Electric Vacuum Furnace.* (Paper read before Int. Cong. Appl. Chem.; abstract).—Chem. Engr., June, 1913; p 234; 2800 w*; 35c.

Wdowiszewski, Henryk.—*Ein Beitrag zur volumetrischen Bestimmung des Phosphors im Stahl nach der Methode von Macagno.* [A contribution to the volumetric determination of phosphorous in steel according to the Macagno method].—Chemiker-Ztg., Sept. 6, 1913; p 1069; 2000 w; 35c.

Wogrinz, A.—*Ueber die Verwendung von Methylorange als Indicator bei der Titration freier Schwefelsäure in Lösungen von Kupfervitrol.* [On the use of methyl orange as indicator in the titration of free sulphuric acid in solutions of copper sulphate].—Chemiker-Ztg., July 19, 1913; p 869; 400 w; 35c.

Zinsberg, S. — *The Determination of Tungsten, Chromium, Nickel, Molybdenum, Vanadium, Etc., in Steel.*—Mg. & Eng. World, Oct. 25, 1913; p 741; 400 w; 10c.

——— *Analyzed Iron and Manganese Ores—Methods of Analysis.*—Circular No. 26, Bureau of Standards, U. S. Dep. of Commerce; 20 pp.

——— *Analyzed Irons and Steels—Methods of Analysis.*—Circular No. 14, Bureau of Standards, U. S. Dep. of Commerce; 15 pp.

———. *Government Analysis of Black Powder and Dynamite.* (Abstract of Bull. 51, U. S. Bureau of Mines).—Mg. & Eng. World, Aug. 2, 1913; p 203; 400 w; 10c.

——— *Minor Assay Offices of the Government.* [Editorial].—Mg. & Eng. World, Dec. 27, 1913; p 1137; 1400 w; 10c.

——— *Result of Investigations of the Methods of Assaying Broken Hill Ores.*—Trans. Australasian Inst. M. E., No. 10; 1913; p 195; 46 pp; 75c.

——— *Standard Analyzed Samples—General Information.*—Circular No. 25, U. S. Bureau of Standards; 12 pp.

———. *Testing for Carbon Monoxide.*—Colliery Engr., Aug., 1913; p 14; 1100 w; 35c.

METALLURGY.

CHAPTER XVIII.

ELECTROMETALLURGY

Baumhauer, H. F.—*Das Tantalmetall und seine Verwertung;* [Metallic tantalum, its preparation and utilization]. — Südwestdeutsche Industrieztg., June 7, 1913; p 335; 1700 w; 35c.

Bennett, C. W.—*The Electrodeposition of Brass and Bronze.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 3000 w.

Bennett, C. W.—*The Electrodeposition of Copper.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 5500 w.

Brownson, E. E.—*The Determination of Arsenic and Antimony.* [Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 27, 1913; p 1155; 3200 w; 10c.

Burns, W. F.—*Electrolytic Refining of Copper Precipitate.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Sept. 13, 1913; p 469; 1500 w; 10c.

Burns, Willis T.—*The Great Falls Electrolytic Copper Refinery.* (Paper read before Am. Inst. Mg. Engrs.; abstract).—Met. & Chem. Engr., Sept., 1913; p 509; 9500 w*; 35c.

Clevenger, G. Howell, and Hall, Mortimer L.—*Electrolysis of Aqueous Solutions of the Simple Alkaline Cyanides.* (Abstract of paper read at Denver meeting Am. Electrochem. Soc.).—M. & S. P., Dec. 13, 1913; p 927; 325 w; 20c.

Crawford, John.—*Progress of Electric Smelting at Heroult, California.*—Met. & Chem. Eng., July, 1913; p 383; 4800 w*; 35c. Ir. Age, July 17, 1913; p 124; 2500 w*; 30c.

Demeter, Dr.—*Fortschritte im Metallhüttenwesen.* [Advances in metallurgy (electro-)].—Centralblatt Hütten & Walzwerke, Aug. 25, 1913; p 469; 400 w*: 35c.

FitzGerald, F. A. J., and Hinckley, A. T. —*Experiments with Furnace Electrodes.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 5500 w.

Frick, Otto.—*The Electric Refining of Steel.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; 22,000 w*; 35c.

Hale, E. W.—*Copper Matte and Base Bullion from an Electric Spelter Furnace.* —M. & S. P.. Dec. 20, 1913; p 974; 1500 w; 20c.

Hoffman, H. O.—*General Metallurgy.*—New York; McGraw-Hill Book Co.; 909 pp*; $6 (book).

Johnson, Woolsey McA.—*Byproducts in Electric Zinc Smelting.*—E. & M. J., Dec. 20, 1913; p 1157; 3000 w*; 25c.

Johnson, Woolsey McA.—*The Johnson Electric Zinc-Smelting Process.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1073; 3200 w; 10c.

Johnson, Woolsey McA., and Sieger, George N.—*Electric Furnaces: Their Design, Characteristics and Commercial Application.*—Met. & Chem. Engg., Oct., 1913; p 563; 4500 w*; Nov., 1913; p 643; 6000 w*; Dec., 1913; p 863; 4000 w*; $1.05.

Kern, Edward F.—*The Electrolysis of Cyanide Solutions.* (Abstract of paper presented before Am. Electrochem. Soc.).—M. & S. P., Oct. 11, 1913; p 577; 2000 w*; 20c.

Kern, Edward F.—*The Electrodeposition of Tin.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; p 193; 12,000 w. Chem. Eng., June, 1913; p 249; 15,000 w; 35c.

Johnson, Woolsey McA.—*Zinc Smelting in the Electric Furnace.*—E. & M. J., Nov. 22, 1913; p 965; 2400 w*; 25c.

Koch, Berthold.—*Ueber Messinganalyse.* [On the analysis of brass].—Chemiker-Ztg., July 22, 1913; p 873; 2400 w; 35c.

Kranafeldt, P.—*Electromagnetic Ore Concentration by the Ullrich Separator.*—Canadian Mg. Jnl., Nov. 15, 1913; p 703; 3600 w*; 35c.

Louvrier, Francis.—*A New Type of Electrical Furnace for the Reduction of Ores.*—Met. & Chem. Engg., Dec., 1913; p 710; 4300 w*; 35c.

Louvrier, F.—*Comparison Between Electric and Fuel Furnaces.*—Mex. Mg. Jnl., Sept., 1913; p 427; 3100 w; 35c.

Lyon, Dorsey A., and Keeney, Robert M. —*The Smelting of Copper Ores in the Electric Furnace.* (Paper read before Am. Inst. Mg. Engrs.).—Mg. Jnl., London, Sept. 20, 1913; p 909; 2800 w; 35c.

Lyon, Dorsey A., and Kenney, Robert M. —*Possible Applications of Electric Furnaces to Western Metallurgy.* (Paper read before Am. Electrochem. Soc.).—M. & S. P., Nov. 1, 1913; p 686; 7000 w; 20c. Mg. & Eng. World, Dec. 13, 1913; p 1063; 5000 w; 10c.

Masselon, E.—*Le Four Electrique Helfenstein.* [The Helfenstein electric furnace].—Metallurgie, Oct. 1, 1913; p 780; 800 w*; 35c.

Mathers, Frank C.—*The Electro-deposition of Lead.*—Trans. Am. Electro-Chem. Soc., Vol. 23; p 153; 7000 w; 35c.

McCaffery, R. S.—*The Electric Smelting of Lead-Zinc Ores.* (Abstract of paper read at joint meetings of Western Sections A. I. M. E.).—Mg. & Eng. World, Nov. 29, 1913; p 967; 700 w; 10c.

Miller, John F.—*The Electrolytic Refinery at Trail, B. C.* (Abstract of paper read before Western Branch Can. Mg. Inst.).—Mg. & Eng. World, July 12, 1913; p 57; 2500 w*; 10c.

Miller, W. Lash.—*The Electrodeposition of Metals.*—Trans. Am. Electrochem. Soc., Vol. 23; p 17; 1700 w.

Moldenhauer, W., and Anderson, J.—*Ueber die Elektrolytische Darstellung von Calciumlegierungen und Calcium;* [Electrolytic preparation of calcium and its alloys].—Zeit. Elektrochemie, June 1, 1913; p 444; 2000 w*; 45c.

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metallurgy in 1912].—Glückauf, Oct. 11, 1913; p 1678; 7000 w; 50c.

Neumann, B.—*Forschritte der elektrischen Roheisenerzeugung;* [Progress in the electric production of pig iron].—Montan-Ztg., June 1, 1913; p 207; 1000 w; 35c.

Nicou, P.—*Du Haut-Fourneau Électrique.* [On the electric blast furnace].—L'Écho des Mines, June 2, 1913; p 636; 1500 w; 35c. Reprinted in Jnl. du Four Electriq., June 13, 1913; p 271; 1500 w; 35c.

Nicou, P.—*Haut Fourneau Électrique Hans Bie Lorentzen.* [The Hans Bie Lorentzen electric blast furnace] (From Annales des Mines).—L'Echo des Mines, Aug. 14, 1913; p 892; 1100 w*; 35c. Jnl. du Four Electriq., July 15, 1913; p 316; 400 w*; 35c.

Nicou, P.—*Les Hauts-Fourneaux Électriques de Trollhattän et Hagfors, Suède.* [The electric blast furnaces at Trollhattän and Hagfors, Sweden].—Revue de Metallurgie, June, 1913; p 790; 1100 w*; $1.15.

Oesterheld, G.—*Tantal als Kathodenmaterial.* [Tantalum as a material for cathodes].—Zts. Elektrochemie, Aug. 1, 1913; p 585; 1500 w*; 45c.

Orten-Boving, Jens.—*Electric Iron Smelting.*—Canadian Engr., Dec. 18, 1913; p 877; 3800 w; 35c.

Pascal, Paul.—*Die Elektrometallurgie des Aluminiums. I. Das Ternäre System Tonerde-Fluorit-Kryolith.* [The electrometallurgy of alumninum. I. The ternary system clay-fluorite-cryolite].—Zts. Elektrochemie, Aug. 15, 1913; p 610; 1500 w*; 45c.

Peterson, Peter E.—*Bullwhacker Leaching Plant, Butte, Mont.*—Mg. & Eng. World, Oct. 4, 1913; p 585; 1800 w*; 10c.

Peterson, Peter E.—*Electric Furnace for Zinc Smelting.*—Mg. & Eng. World, Sept. 27, 1913; p 549; 2300 w*; 10c.

Peterson, Peter E.—*The Electric Zinc Furnace.* (Paper read before Am. Electrochem. Soc.).—Chem. Engr., Sept., 1913; p 100; 7000 w*; 35c.

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Rooke-Crowell, John.—*The Leaching of Copper Ores.*—M. & S. P., Aug. 23, 1913; p 294; 3400 w; 20c.

Rosa, E. B., Vinal, G. W., and McDaniel, A. S.—*The Silver Voltameter—Part III. Second Series of Quantative Experiments and the Preparation and Testing of Silver Nitrate.*—Reprint No. 201 from Bull. Bureau of Standards, Vol. 9; 60 pp.

Serpek, O.—*Le Nitrure d'Aluminium et le Problème de l'Azote.* [Aluminum nitride and the nitrogen problem].—Jnl. du Four Electriq., June 15, 1913; p 265; 1800 w; July 1; p 289; 2000 w*; 70c.

Stansbie, J. H.—*Note on the Electrolysis of Nitric Acid Solutions of Copper.*—Trans. Faraday Soc., July, 1913; p 11; 3 pp; 50c. Mg. & Eng. World, Oct. 25, 1913; p 734; 1000 w; 10c.

Sykes, Wilfred.—*The Status of the Electric Steel Furnace.* (Paper read before Asam. Iron & Steel Elect. Engrs.).—Iron Age, Oct. 16, 1913; p 856; 3000 w; 30c.

Vom Baur, C. H.—*New Electric Furnace of the Induction Type.*—Iron Age, Sept. 18, 1913; p 612; 1500 w*; 30c.

——— *Electric Iron Smelting at Hardanger.*—Mg. Jnl., London, Sept. 6, 1913; p 863; 2800 w; Sept. 13, 1913; p 885; 2700 w; 70c.

——— *Electric Smelting of Copper Ores.* [Editorial].—M. & S. P., Nov. 1, 1913; p 675; 1000 w; 20c.

——— *Electrométallurgie du Fer et de l'Acier, Procédés Froges-Heroult.* [Electrometallurgy of iron and steel, Froges-Heroult process].—Revue d'Electrochemie et de Electrometallurgie, April, 1913; p 85; 800 w*, with table of Heroult furnaces in service and under construction; 75c.

———. *Electro-Metallurgy in Norway.* (From Jnl. Four. Eletrq.).—E. & M. J., July 12, 1913; p 64; 300 w; 25c.

———. *Electrometallurgy in Scandinavia.*—E. & M. J., June 14, 1913; p 1203; 2000 w; 25c.

——— *L'Alto Forno Elettrico.* [The electric blast furnace].—Rass. Min. Metallurgica & Chim., Sept. 1, 1913; p 81; 2000 w; 35c

——— *Le Rôle des Scories dans le Raffinage de l'Acier Électrique.* [The role of slags in the refining of electric steel].—Revue Industrielle, Oct. 4, 1913; p 10; 1200 w; 35c.

——— *Le Traitement des Minerais de Cuivre au Four Electrique.* [The treatment of copper ores in the electric furnace].—Echo des Mines, Oct. 9, 1913; p 1034; 1500 w; 35c.

——— *Le Traitement des Minerais de Cuivre au Four Electrique.* [The treatment of copper ores in the electric furnace].—Jnl. du Four Electriq., Sept. 15, 1913; p 385; 1400 w; 35c.

———. *Les Hauts Fourneaux Électriques.* [Electric blast furnaces].—Revue d'Electrochemie et d'Electrometallurgie, May, 1913; p 117; 2400 w; 75c.

——— *Manufacture of Aluminum in France.* (Abstract from La Revue Electrique).—E. & M. J., Nov. 29, 1913; p 1010; 500 w; 25c.

——— *Nouveau Four Électrique Type Rennerfelt.* [New electric furnace of the Rennerfelt type].—Jnl. du Four Electriq., Aug. 15, 1913; p 339; 250 w*; 35c.

——— *Noveau Four à Induction, Système Crafts.* [A new induction furnace, Crafts system].—Jnl. du Four Electriq., Oct. 15, 1913; p 436; 500 w*; 35c.

——— *Scandinavian Electric Zinc Smelting.*—E. & M. J., Nov. 29, 1913; p 1030; 600 w; 25c.

———. *The Electric Steel Industry's Present Status.*—Ir. Age, July 10, 1913; p 81; 900 w; 30c.

———. *The Reduction of Lead-Copper Mattes in the Electric Furnace.* (Abstract from Proc. Inst. for Metal Smelting & Electromet. at Tech. Acad. of Aix-la-Chapelle).—Mg. & Eng. World, Aug. 2, 1913; p 217; 500 w; 10c.

——— *The Smelting of Tin Ore in the Electric Furnace.* (An article based on experiments carried out by H. Harden in Cornwall and described in Elektrotechnische Zeitschrift; translation).—Mg. Jnl., Oct. 18, 1913; p 1002; 1200 w; 35c.

——— *Transactions of the American Institute of Metals, Vol. VI.* 1912.—Buffalo, N. Y., Am. Inst. of Metals; 250 pp; $3 (book).

ELECTROCHEMISTRY

Bennett, C. W., and Brown, C. O.—*Concentration Changes in the Electrolysis of Copper-Sulphate Solutions.* — Trans. Am. Electrochem. Soc,, Vol. 23, 1913; 5000 w*.

Clement, J. K., and Walker, L. V.—*An Electrolytic Method of Preventing Corrosion*

of Iron and Steel.—Washington, D. C.; Technical Paper 15, U. S. Bureau of Mines; 19 pp*.

Demorest, D. J.—*Electrolytic Determination of Copper in Certain Ores.* (Abstract from Jnl. Ind. & Eng. Chem.).—Mg. & Eng. World, Aug. 2, 1913; p 208; 1200 w; 10c.

Döring, Th.—*Forschritte auf den Gebiete der Metallanalyse im Jahre* 1912. [Progress in metal analysis in 1912].—Chemiker-Ztg., Aug. 12, 1913; p 961; 1500 w; 35c.

Douglas, James.—*The Relative Importance of Principles and Practice in Education* (Address Colo. Sch. of Mines).—Met. & Chem. Eng., July, 1913; p 377; 5500 w; 35c.

Fairchild, J. G.—*Electro-Analysis of the Copper Alloys.*—Met. & Chem. Eng., July, 1913; p 380; 2200 w*; 35c.

Frary, Francis C.—*The Electrodeposition of Gold and Silver.*—Trans. Am. Electrochem. Soc., Vol. 23; p 25; 18,000 w.

Gartenmeister, R.—*Kathodische Bleibestimmung und Analyse von Bleilegierungen.* [Cathode-lead determination and analysis of lead alloys].—Chemiker-Ztg., Oct. 18, 1913; p 1281; 900 w; 35c.

Gilchrist, Elizabeth, and Cummings, Alexander C.—*Notes on the Electrolytic Determination of Copper in Solutions Containing Nitric Acid.*—Trans. Faraday Soc., London, July, 1913; p 186; 50c.

Marc, R.—*Ueber den Einfluss von Kolloidzusätzen auf die Kathodischen und Anodischen Vorgänge bei der Elektrolyse von Metallsalzlösungen (Blei und Zink) I;* [Effect of Colloids on Electrolytic Deposition of lead and zinc].—Zeit. Elektrochemie, June 1, 1913; p 431; 15 pp*; 45c.

Matignon, Camille.—*Le Problème de la Fixation Industrielle de L'Azote.* [The problem of the industrial fixation of nitrogen] (Communication to the Soc. d'Encouragement pour l'Industrie Nationale).—Le Phosphate, Aug. 11, 1913; p 757; 1600 w; Aug. 8; p 783; 2100 w; Aug. 25; p 805; 2400 w; $1.05.

Oberhelman, G. O., and Browning, P. E.—*On the Preparation of Tellurous Acid and Copper Ammonium Tellurite.*—Am. Jnl. Sci., Oct., 1913; p 399; 2 pp; 65c.

Reichinstein, D.—*Beitrag zur Theorie der Chemischen Polarisation der Umkehrbaren Elektroden. Das Anodische Verhalten von Hg-Cu und Ag-Cu Legierungen;* [Contribution to the theory of chemical polarization of reversible electrodes. The anodic behavior of Hg-Cu and Ag-Cu alloys].—Zts. Elektrochemie, July 1, 1913; p 520; 5400 w*; 45c.

Reichinstein, D., and Zieren, A.—*Ueber den Einfluss der Zusätze von Freier Schwefelsäure, sowie ihrer Neutralsalze zum Elektrolyten auf die Kathodische Polarisation der Cu-$CuSO_4$ Elektrode;* [On the influence of additions of free sulphuric acid, as well as its neutral salts, to the electrolyte on the cathodic polarization of the Cu-$CuSO_4$ electrode].—Zts. Elektrochemie, July 1, 1913; p 530; 1500 w*; 45c.

Richards, J. W.—*Aluminium Nitride.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 2400 w*.

Tofani, Giovanni.—*Fixation de l'Azote par le Ferro-Silicium.* [Fixation of nitrogen by ferro-silicon] (Abstract from Atti del Congresso delle Applicazioni Elettriche, Turin, Italy).—Jnl. du Four Electriq., Aug. 15, 1913; p 339; 500 w; 35c.

Uebbing, Paul.—*Versuche zur Verarbeitung zinkhaltiger Kieselbrände.* [Experiments on the utilization of zinc-carrying pyrites cinder].—Matall & Erz, July 22, 1913; p 607; 3000 w*; 50c.

Walker, Wm. H., and Patrick, Walter A.—*The Determination of Oxygen in Iron and Steel by Reduction in an Electric Vacuum Furnace.* (Paper read before Int. Cong. Appl. Chem.; abstract).—Chem. Engr., June, 1913; p 234; 2800 w*; 35c.

Watts, Oliver P.—*The Electrodeposition of Cobalt and Nickel.*—Trans. Am. Electrochem. Soc., Vol. 23; p 99; 12,000 w.

Wegelin, Gustav.—*Ueber die Verwendung von Tantalelektroden zur elektroanalytischen Bestimmung von Kupfer und Zink.* [On the use of tantalum electrodes in the electro-analytical determination of copper and zinc].—Chemiker-Ztg., Aug. 19, 1913; p 989; 800 w; 35c.

Wells, Roger G.—*Electrochemical Activity Between Solutions and Ores.*—Economic Geol., Sept., 1913; p 571; 7 pp*; 65c.

———. *A Propos de la Fabrication Electrique des Nitrates.* [Concerning the electric manufacture of nitrates] (Abstract from Jnl. Royal Soc. of Arts).—Jnl. du Four Electriq., Sept. 1, 1913; p 367; 1200 w; 35c.

———. *Artificial Diamonds.*—E. & M. J., Nov. 29, 1913; p 1031; 350 w; 25c.

———. *New Electro-Chemical Method.*—Mg. & Eng. World, July 12, 1913; p 48; 200 w; 10c.

———. *Norgesalpeter.* [Norwegian saltpeter]. — Zentralblatt Kunstdünger-Ind., July, 1913; p 270; 2000 w; 35c.

———. *Procédé Bourgeot pour Minerais de Zinc et de Cuivre.* [Bourgeot process for treatment of ores of zinc and copper].—L'Echo des Mines, Aug. 14, 1913; p 891; 1000 w; 35c.

———. *Processo Bourgeot per Minerali di Zinco e Rame.* [The Bourgeot process for ores of zinc and copper].—Rass. Min. Metallurgica & Chim., Sept. 1, 1913; p 87; 800 w; 35c.

———. *Preparation Electrolique des Métaux Alcalins.* [Electrolytic preparation of alkali metals] (Translated from Elektrochem. Zts.).—Jnl. du Four Electriq., Oct. 1, 1913; p 419; 900 w*; 35c.

THERMIC METALLURGY

General

Alzugaray, Baxeres de.—*Rapid Advance Made in Copper Hydro-Metallurgical Methods.*—Mg. & Eng. World, June 28, 1913; p 1226; 1000 w; 10c.

Baumhauer, H. F.—*Das Tantalmetall und seine Verwertung;* [Metallic tantalum, its preparation and utilization]. — Südwestdeutsche Industrieztg., June 7, 1913; p 335; 1700 w; 35c.

Barnhurst, H. R.—*The Use of Pulverized Coal as a Fuel for Metallurgical Furnaces.* (Paper read before Am. Inst. Mg. Engrs.).—Iron & Coal Tr. Rev., London, Nov. 7, 1913; p 725; 2800 w; 35c.

Belden, A. W.—*Foundry-Cupola Gases and Temperatures.*—Bull. 54, U. S. Bureau of Mines; 29 pp*.

Bennie, J. W.—*Magnetite in Mattes and Slags.*—E. & M. J., Dec. 27, 1913; p 1213; 1200 w; 25c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice, 1910 to 1913.*—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Bernewitz, M. W. von.—*Smelting at Campo Seco, California.*—M. & S. P., Dec. 6, 1913; p 897; 1200 w*; 20c.

Blanquier, Juan.—*The Sulphur Industry of Sicily.* (Abstract from Boletin de la Sociedad Nacional de Mineria).—Mg. Jnl., London, June 28, 1913; p 633; 3000 w; 35c.

Bres, M.—*Divergences Entre la Structure et la Composition de Certains Aciers.* [Divergencies between the structure and the composition of certain steels].—Revue de Métallurgie, July, 1913; p 797; 2000 w*; $1.15.

Brooks, G. S.—*Formation of Zinc Ferrite in Roasting Blende* (Abstract from Bull. Am. Inst. Mg. Engrs., May, 1913).—Met. & Chem. Eng., July, 1913; p 418; 700 w; 35c.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burchard, Ernest F.—*The Red Iron Ores of East Tennessee.*—Bull. 16, State of Tenn. Geol. Survey; 173 pp*.

Burgess, G. K., and Waltenberg, R. G.—*Melting Points of the Refractory Elements*—1. *Elements of Atomic Weight from* 48 *to* 59.—Reprint No. 205 from Bull. Bureau of Standards, Vol. 10; 14 pp*.

Caetani, Gelasio.—*Economics of Milling.*—Mg. Mag., London, Aug., 1913; p 125; 4700 w*; 35c.

Carr, W. M.—*Some Observations on Miniature or Detachable Open-Hearth Furnaces.*—Bull. Am. Foundrymen's Assn.; p 75; 16 pp*; 35c.

Cirkel, Fritz.—*Rapport sur les Dépôts de Fer Chromé des Cantons de l'Est de la Province de Quebec.* [Report in the deposits of chromite of the eastern cantons of the province of Quebec].—Canada Dep. of Mines, Mines Branch; 145 pp*.

Clerc, F. L.—*Condensation of Zinc Gas to Liquid, in the Presence of Inert Gas.*—Met. & Chem. Engg., Nov., 1913; p 637; 3000 w*; 35c.

Clerc, F. L.—*The Psychology of Zinc*—M. & S. P., July 12, 1913; p 63; 1200 w; 20c.

Clevenger, G. Howell.—*The Temperature of Certain Operations in the Metallurgy of Copper and Lead.*—Met. & Chem. Engg., Aug., 1913; p 447; 2500 w*; 35c.

Crawford, John. — *Progress of Electric Smelting at Heroult, California.*—Met. & Chem. Eng., July, 1913; p 383; 4800 w*; 35c. Abstract in Ir. Age, July 17, 1913; p 124; 2500 w*; 30c.

Coleman, A. P.—*Metallurgy of Sudbury Copper-Nickel Ores.* (Abstract from Monograph issued by Dept. of Mines, Canada; p 1069; 2600 w; 10c.

Coleman, A. P.—*The Nickel Industry: With Special Reference to the Sudbury Region, Ontario.*—Ottawa, Ont.; Monograph Canada Department of Mines, Mines Branch; 206 pp*. Abstract in M. & S. P., Sept. 13, 1913; p 412; 6000 w*; 20c.

Cromwell, C. W.—*The United Verde's 400-Ft. Steel Chimney.*—E. & M. J., Dec. 6, 1913; p 1058; 2600 w*; 25c.

Demeter, Dr.—*Fortschritte im Metallhüttenwesen.* [Advances in metallurgy (electro-)].—Centralblatt Hütten & Walzwerke, Aug. 25, 1913; p 469; 400 w*; 35c.

Demeter, Dr. Ing.—*Ein neues Stahlzementierverfahren mit Gasen.* [A new steel-cementation process with gases].—Centralblatt Hütten & Walzwerke, Nov. 15, 1913; p 631; 1200 w*; 35c.

Dickson, Gordon F.—*Cam & Motor Metallurgy.* [Describes method of treating Rhodesian gold ore containing arsenic and antimony].—Mg. Mag., Aug., 1913; p 132; 2800 w*; 35c.

Donath, Ed. — *Ueber Hochofendurchbrüche.* [On blast-furnace break-throughs].—Montanist. Rundschau, No. 17, 1913; p 819; 2000 w; 35c

Donath, Ed., and Lissner, A.—*Ueber Hochofendurchbrüche.* [On blast-furnace break-throughs].—Montanistische Rundschau, Oct. 1, 1913; p 929; 5000 w; Nov. 1, 1913; p 1033; 2000 w*; Nov. 16, 1913; p 1090; 2800 w*; Dec. 1; p 1157; 2300 w*; Dec. 16, 1913; p 1214; 3000 w*; $1.40.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Douglas, James.—*The Relative Importance of Principles and Practice in Education* (Address Colo. Sch. of Mines).—Met. & Chem. Eng., July, 1913; p 377; 5500 w; 35c.

Duchez, J.—*Fabrication de la Chaux pour Aciéries et les Fours a Chaux de Montgrignon, Près Verdun.* [The manufacture of lime for steel works and the lime kilns of Montgrignon, near Verdun, France].—Revue Matériaux, June, 1913; p 89; 1600 w*; 75c.

Febles, J. C.—*Precipitation of Copper from Mine Waters.* (Paper presented at Butte Meeting Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 30, 1913; p 373; 2500 w*; 10c.

FitzGerald, F. A. J., and Hinckley, A. T.—*Experiments with Furnace Electrodes.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 5500 w.

Friedrich, K. — *Untersuchungen über Schichten bildende Systeme;* [Investigations of layer-forming systems of molten metals].—Metall & Erz, July 8, 1913; p 575; 5300 w*; 50c.

Friedrich, K.—*Zur Kenntnis der Erstarrungspunkte der Kobaltnickelarsenide.* [Concerning the solidification points of cobalt-nickel arsenides].—Metall & Erz, Aug. 8, 1913; p 659; 9000 w*; 50c.

Gillett, H. W., and Norton, A. B.—*The Approximate Melting Points of Some Commercial Copper Alloys.*—Tech. Paper 60, Mineral Tech. 5; 9 pp*.

Goodall, C. W.—*The Character of the Butte Copper Ores.* (Paper read before Butte meeting Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Dec. 6, 1913; p 1035; 1300 w*; 10c.

Haan, Dipl. Ing.—*Schwefeleisen-Schwefelzinn.* [Iron sulphide-tin sulphide system].—Metall & Erz, Oct. 22, 1913; p 831; 1700 w*; 50c.

Haas, Herbert.—*Development of Converter Practice.*—M. & S. P., Oct. 25, 1913; p 653; 2800 w; 20c.

Hahn, O. H.—*The Kedabeg Copper-Smelting Works in the Caucasus.* (Abstract from Gluckauf)—E. & M. J., July 5, 1913; p 15; 4000 w*; 25c.

Hale, E. W.—*Copper Matte and Base Bullion from an Electric Spelter Furnace.*—M. & S. P., Dec. 20, 1913; p 974; 1500 w; 20c.

Hall, John H.—*The Heat-Treatment of Carbon Steel Castings.* (Paper presented before Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 81; 2500 w; 25c.

Hanson, H. J.—*Smelting Iron Electrically with Coke as Fuel.* [Norway].—Iron Tr. Rev., Dec. 4, 1913; p 1003; 2500 w*; 25c.

Heberlein, Ferdinand.—*An Excursion to*

North American Smelting Works. (Address delivered before Gesellschaft Deutscher Metallhütten und Bergleute; printed in Metall und Erz and translated by Herbert Hass).—M. & S. P., Nov. 8, 1913; p 713; 7000 w; 20c.

Heberlein, Ferdinand.—*Eine Exkursion auf nordamerikanische-mexikanische Blei, Zink und Kupferhütten.* (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 716; 5000 w*; 50c.

Heberlein, F.—*Lead, Zinc and Copper Smelting in America.* (A record of observations on current American metallurgical practice compared with European; translation in Metall und Erz).—E. & M. J., Nov. 8, 1913; p 871; 3500 w*; Nov. 15, 1913; p 909; 3500 w*; 50c.

Heym, Ingenieur.—*Die Kraftmaschinen in der modernen amerikanischen Stahlindustrie.* [The power equipment in the modern American steel industry].—Kali, Erz & Kohle, Dec. 5, 1913; p 1215; 2500 w; Dec. 15; p 1252; 1000 w; 70c.

Heym, Ingenieur.—*Regenerieröfen in der Schmelzofenpraxis;* [Regenerative furnaces in melting-furnace practice].—Kali, Erz & Kohle, May 25, 1913; p 519; 1500 w; 35c.

Hiorth, Albert.—*The Induction Furnace and Its Use in the Manufacture of Steel.*—Bull. Am. Foundrymen's Assn.; p 157; 20 pp*; 35c.

Hoffman, H. O.—*General Metallurgy.*—New York; McGraw-Hill Book Co.; 909 pp*; $6 (book).

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June 30, 1912.*—U. S. Dep. of the Interior; 88 pp.

Hoover, H. C.—*Historical Note on Smelting Lead and Silver* (Footnote from book IX of Hoover's translation of Agricola).—E. & M. J., July 26, 1913; p 169; 1500 w; 25c.

Hüser, Frederich.—*Kupferraffination mit Magnesium;* [Copper refining with magnesium].—Metall & Erz, May 22, 1913; p 479; 1500 w*; 50c.

Jacobs, E.—*Improvements at the Consolidated Co.'s Smelting Works at Trail B. C.*—Canadian Mg. Jnl., Aug. 15, 1913; p 517; 2000 w; Oct., 1913; p 562; 1800 w; 70c.

Johnson, Woolsey McA.—*Byproducts in Electric Zinc Smelting.*—E. & M. J., Dec. 20, 1913; p 1157; 3000 w*; 25c.

Johnson, Woolsey McA.—*Zinc Smelting in the Electric Furnace.*—E. & M. J., Nov. 22, 1913; p 965; 2400 w*; 25c.

Johnson, Woolsey McA., and Sieger, George N.—*Electric Furnaces, Their Design, Characteristics and Commercial Application.*—Met. & Chem. Engg., Sept., 1913; p 504; 3500 w; 85c.

Jones, A. H.—*Precipitate Melting at the New Belmont Mill, Nevada.*—E. & M. J., June 14, 1913; p 1197; 650 w*; 25c.

Juretzka, Franz. — *Die Principien der Temperaturführung in modernen Zinkdestillieröfen.* [The principles of temperature control in modern zinc-distillation furnaces].—Metall & Erz, Sept. 22, 1913; p 767; 2500 w; 50c.

Juntzen, G.—*Granulation du Laitier par l'Air.* [The granulation of slag by means of air] (Abstract from address before Asso. of German Metallurgists).—L'Echo des Mines, June 12, 1913; p 680; 200 w; 35c.

Kahr, Max.—*Neuere maschinentechnische Anlagen im Zinkhüttenbetrieb.* [Recent mechanical equipment in the metallurgy of zinc].—Metall & Erz, Nov. 22, 1913; p 895; 4000 w*; 50c.

Kellogg, L. C.—*Experiment in Smelting Titaniferous Magnetite.*—E. & M. J., Sept. 27, 1913; p 604; 700 w; 25c.

Keppeler, Gustav.—*Vergleichende Röstversuche mit Feinkies von verschiedenem Schwefelgehalt.* [Comparative roasting experiments with fine pyrites of various sulphur content].—Chemiker-Ztg., Oct. 7, 1913; p 1219; 2000 w; 35c.

Laist, Frederick.—*Roasting and Leaching Tailings at Anaconda.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Sept. 27, 1913; p 545; 3200 w*; Oct. 7, 1913; p 599; 2800 w*; 20c.

Lalande, De.—*Le Nickel en* 1912. [Nickel in 1912] (From L'Echo des Mines).—Bull. du Commerce, April 12, 1913; p 15; 600 w; 35c.

Langmuir, Irving.—*Convection and Radiation of Heat.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 10,000 w.

Lee, Richard Henry.—*The Use of Nodulized Ore in the Blast Furnace.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2515; 8 pp; 35c.

Liddell, Donald M.—*The Hall Desulphurizing Process.*—E. & M. J., July 12, 1913; p 50; 250 w; 25c.

Linsville, Clarence P.—*A Chart for Psychrometric Determinations.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2533; 4 pp*; 35c.

Lloyd, R. L.—*Sintering Sulphide Ores at High Altitudes;* [Results obtained by Dwight & Lloyd machines at Cerro de Pasco smelter, Peru].—M. & S. P., June 14, 1913; 1000 w; 20c.

Louvrier, F.—*Comparison Between Electric and Fuel Furnaces.*—Mex. Mg. Jnl., Sept., 1913; p 427; 3100 w; 35c.

Maguire, Don, and Howard, L. O.—*The Romance of a Famous Gold Mine.* [Con. Mercur].—S. L. Mg. Rev., July 15. 1913; 7500 w*; 25c.

Martell, Paul.—*Zur Geschichte des Thomasverfahrens.* [On the history of the Thomas method of steel manufacture].—Zts. Zentral Verbd. Bergbau Betriebsl., Nov. 15, 1913; p 725; 2300 w; 35c.

Masselon, E.—*Le Four Electrique Helfenstein.* [The Helfenstein electric furnace].—Metallurgie, Oct. 1, 1913; p 780; 800 w*; 35c.

Master, George Chester.—*Tin Mining in Mexico.*—Mg. Mag., Sept., 1913; p 199; 3200 w*; 35c.

Mathesius, W.—*Investigations of Blast Furnace Operations.* (Translation from Stahl und Eisen).—Chem. & Met. Engg., Dec., 1913; p 699; 6000 w*; 35c.

McCaffery, R. S.—*The Electric Smelting of Lead-Zinc Ores.* (Abstract of paper read at joint meeting of Western Sections A. I. M. E.).—Mg. & Eng. World, Nov. 29, 1913; p 967; 700 w; 10c.

McLaughlin, J. P. M.—*The New Smelting Works of the Calumet & Arizona Co.*—S. L. Mg. Rev., Oct. 30, 1913; p 15; 4000 w*; 25c.

Merton, A. M.—*Mexican Method of Retorting Amalgam.*—E. & M. J., Aug. 9, 1913; p 263; 800 w*; 25c.

Neumann, B.—*Das Metallhüttenwesen im Jahre* 1912. [Metallurgy in 1912].—Glückauf, Oct. 11, 1913; p 1678; 7000 w; Oct. 18, 1913; p 1723; 4000 w; $1.

Neumann, B.—*Forschritte der elektrisch-*

en Roheisenerzeugung; [Progress in the electroc production of pig iron].—Montan-Ztg., June 1, 1913; p 207; 1000 w; 35c.

Nicou, P.—*Du Haut-Fourneau Électrique.* [On the electric blast furnace].—L'Écho des Mines, June 2, 1913; p 636; 1500 w; 35c.

Nicou, P.—*Du Haut-Fourneau Électrique.* [On the electric blast furnace] (Extracts from Annales de Mines).—Jnl. du Four Electriq., June 13, 1913; p 271; 1500 w; 35c.

Nicou, P.—*Haut Fourneal Électrique Hans Bie Lorentsen.* [The Hans Bie Lorentzen electric blast furnace] (From Annales des Mines).—L'Écho des Mines, Aug. 14, 1913; p 892; 1100 w*; 35c; Jnl. du Four Electriq., July 15, 1913; p 316; 800 w*; 35c.

Nicou, P.—*Les Hauts-Fourneaux Électriques de Trollhattän et Hagfors, Suède.* [The electric blast furnaces at Trollhattän and Hagfors, Sweden].—Revue de Metallurgie, June, 1913; p 790; 1100 w*; $1.15.

Offerhaus, C.—*Copperhill-Praxis im Verschmelzen von Kupfererzen nach dem Pyritverfahren.* [Copperhill practice in the smelting of copper ores by the pyritic method].—Metall & Erz, Nov. 8, 1913; p 863; 3000 w; 50c.

Ortin, M. F.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken;* [The smelting of gold and silver-bearing copper ores at the Blagodatny Works].—Metall & Erz, June 22, 1913; p 543; 5600 w*; July 8; p 586; 4400 w*; July 22, 1913; p 612; 13,000 w*; Oct. 8, 1913; p 799; 3500 w*; Oct. 22, 1913; p 835; 1800 w*; $2.50.

Ortin, M. F., and Ropp, Baron A. v. d.—*Die Verschmelzung der gold- und silberhaltigen Kupfererze auf den Blagodatny-Werken.* [Discussion of Mr. Ortin's article "The smelting of gold and silver-bearing ores at the Blagodatny works"].—Metall & Erz, Nov. 8, 1913; p 874; 1200 w; 50c.

Otto, Carl. — *Direkte Stahlerzeugung.* [The direct production of steel].—Berg & Höttenmännische Rundschau, June 20, 1913; p 226; 1400 w; 35c.

Parmelee, H. C.—*Cyanide Practice in the Black Hills, South Dakota.*—Met. & Chem. Eng., July, 1913; p 395; 6000 w; 35c.

Patchell, W. H.—*Application of Electric Power to Mines and Heavy Industries.*—New York, D. Van Nostrand Co.; 333 pp*; $4 (book).

Pazos y Sacio, Vincente.—*Fundición en Hornos de Manga á Grandes Alturas.* [Smelting in blast furnaces at high altitudes].—Inf. y Mem. Boletin Soc. Ing. Peru, Aug., 1913; p 381; 6000 w; 75c.

Pazos y Sacio, Vincente.—*Smelting in Shaft Furnaces in Great Altitudes.*—Sch. of Mines Quarterly, July, 1913; p 344; pp 15*; 65c; excerpt in M. & S. P., July 26, 1913; p 145; 4000 w*; 20c.

Peterson, Peter E.—*The Electric Furnace for Zinc Smelting.*—Mg. & Eng. World, Aug. 16, 1913; p 303; 1000 w; Sept. 27, 1913; p 459; 2300 w*; 20c.

Phalen, W. C.—*Sulphuric Acid Industry in the United States.* (Abstract from Min. Res. of U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 2, 1913; p 201; 2250 w; 10c.

Portevin, A.—*Contribution a l'Etude de l'Influence du Recuit sur la Structure des Alliages.* [Contribution to the study of the influence of annealing on the structure of alloys.—Revue de Métallurgie, June, 1913; p 677; 10,000 w*; $1.15.

Portilla, P.—*Consideraciones acerca del Tratamiento de los Minerales Ferriferos de Asturias.* [Considerations on the treatment of ferriferous ores of Asturias, Spain].—Ingeniería, May 30, 1913; p 173; 3000 w; 35c.

Pratt, R. Stephen.—*Semi-Pyritic Smelting in Mexico;* [Minneapolis Co.'s plant].—E. & M. J., June 14, 1913; p 1191; 1600 w; 25c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.*—Mg. & Eng. World, July 19, 1913; p 109; 1800 w*; 10c.

Pulsifer, H. B.—*Lead Smelting Plant at Collinsville, Ill.* (St. Louis Smelting & Refining Co.).—Mg. & Eng. World, Oct. 18, 1913; p 681; 4500 w*; 10c.

Pulsifer, H. B.—*Lead Refining Plant at South Chicago* [National].—Mg. & Eng. World, July 26, 1913; p 153; 2600 w*; Aug. 2, 1913; p 205; 2100 w*; 20c.

Pulsifer, H. B.—*Lead-Refining Plant at Omaha, Neb.*—Mg. & Eng. World, Sept. 13, 1913; p 457; 1900 w*; 10c.

Pulsifer, H. B.—*Lead Smelting at Herculaneum, Missouri.* (Plant of the St. Joseph Lead Co.).—Mg. & Eng. World, Dec. 13, 1913; p 1054; 6500 w*; 10c.

Pulsifer, H. B.—*The Federal Lead Co.'s Smelting Plant.*—Mg. & Eng. World, Aug. 30, 1913; p 375; 3200 w*; 10c.

Read, Thomas T.—*Copper Smelting Practice in the Southwest.*—M. & S. P., Oct. 4, 1913; p 521; 8000 w*; 20c.

Reid, F. W.—*Broken Hill Proprietary Works, South Australia.* (Abstract from Mg. & Eng. Rev.).—Mg. & Eng. World, Nov. 22, 1913; p 923; 3200 w; 10c.

Reid, F. W.—*Zinc Smelting in Australia.* [Description of the Pt. Pirie plant] (Abstract from Mg. & Eng. Rev.).—M. & S. P., Nov. 15, 1913; p 776; 1300 w; 20c.

Reuter, Franz.—*Die neuste Entwickelung der Eisenerzversorgung der oberschlesischen Hochofenindustrie.* [The newest development of the iron-ore supply of the Upper Silesian blast-furnace industry].—Glückauf, Nov. 15, 1913; p 1892; 4800 w; Nov. 22; p 1925; 8000 w*; $1.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Richards, J. W.— *Aluminium Nitride.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 2400 w*.

Richards, Robert H.—*Great Need of Ore-Dressing Improvements.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Oct. 4, 1913; p 587; 2300 w; 10c.

Robin, Felix.—*Développment des Grains de Recuit dans les Alliages.* [Development of grains in alloys by annealing].—Revue de Metallurgy, June, 1913; p 758; 1700 w*; $1.15.

Robin, Felix.—*Recherches sur le Développement des Grains des Métaux par Recuit Après Écrouissage.* [Researches on the development of the grains of metals by alloying after hammering].—Revue de Metallurgie, June, 1913; p 722; 6000 w*; $1.15.

Rogers, Allen, and Aubert, Alfred B.—*Industrial Chemistry, a Manual for the Student and Manufacturer.*—New York; D. Van Nostrand Co.; 868 pp*; $5. (book).

Rooke-Crowell. John.—*The Leaching of Copper Ores.*—M. & S. P., Aug. 23, 1913; p 294; 3400 w; 20c.

Rosenhain and Archbutt.—*Les Alliages d'Aluminium et de Zinc.* [The alloys of aluminum and zinc] (Translation in abstract of the Tenth Report of the Commit-

tee on Alloys).—Revue de Métallurgie, July, 1913; p 822; 8000 w*; $1.15.

Sains, D. Nicolas.—*El Titano en Metalurgia.* [Titanium in metallurgy] (Paper presented at Congress of Metallurgical Industries at Barcelona, Spain).—Revista Minara, June 1, 1913; p 265; 2000 w; June 8; p 277; 1500 w; June 16; p 289; 3800 w; $1.05.

Schenck, Rudolf.—*Ueber die wissenschaftlichen Grundlagen der Röstprozesse.* [On the scientific basis of roasting processes] (Abstract of paper read before Soc. of German Chemists).—Chemiker-Ztg., Sept. 23, 1913; p 1143; 500 w; 35c.

Schimerka, Francis S.—*Leaching Shannon Copper Ores.*—E. & M. J., Dec. 13, 1913; p 1107; 3800 w; 25c.

Schöneweg, H.—*Sprengungen bei Hochofenstörungen.* [Blasting in blast-furnace disturbances].—Zts. Schiess. & Sprengstoffw., Dec. 1, 1913; p 445; 2200 w*; 35c.

Schobner, Franz.—*Füllkörper für Reaktionstürme und. Wärmespeicher.* [Filling bodies for reaction towers and heat regenerators].—Tonindustrie-Ztg., Sept. 18, 1913; p 1429; 3000 w*; 35c.

Schoeller, W. R.—*An Illustration of the Partial Pyrite Process.*—Jnl. Soc. Chem. Ind., July 31, 1913; p 736; 1600 w; 65c.

Scott, M.—*Des Minerais de Fer Chromifères de Grèce.* [The chromic iron ores of Greece] (Abstract from Iron & Steel Inst.).—L'Echo des Mines, May 26, 1913; p 600; 800 w; 35c.

Seager, J. A.—*The Calcining of Ores and Limestones.*—Rock Products, June 22, 1913; p 43; 850 w*; 25c.

Sembdner, Dr.—*Einiges aus der Zinnhüttenpraxis.* [Notes on tin-metallurgy practice].—Metall & Erz, Sept. 22, 1913; p 772; 2200 w; 50c.

Shore, Albert F.—*Notes on the Property of Toughness in Metals.* (Paper presented at meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 86; 1000 w*; 25c.

Siebenthal, C. E.—*Lead in* 1912.—Adv. chap. Min. Res. of U. S., U. S. Geol, Survey; 42 pp.

Sorensen, S. S.—*Roasting at Steptoe Valley Smelting Works, Nevada.*—E. & M. J., June 28, 1913; p 1273; 1500 w*; 10c.

Steck, E. H.—*Neuere Ofentypen im Kupferhüttenbetrieve.* [Recent types of furnaces in copper smelting].—Metall & Erz, Dec. 8, 1913; p 929; 2200 w*; 50c.

Stone, George C.—*Belgian Furnaces in Zinc Smelting.* (Paper read before N. Y. section Am. Inst. Mg. Engrs.).—M. & S. P., Dec. 13, 1913; p 931; 2000 w; 20c.

Styri, Haakon.—*Basisches Verschmelzen von Kupferstein;* [Basic smelting of copper matte].—Metall & Erz, June 8, 1913; p 515; 5200 w*; June 22, 1913; p 554; 1600 w; $1.

Sykes, Wilfred.—*The Status of the Electric Steel Furnace.* (Paper read before Assn. Iron & Steel Elect. Engrs.).—Iron Age, Oct. 16, 1913; p 856; 3000 w; 30c.

Thompson, H. N., and Sicka, L. T.—*Tooele Plant of International Smelting Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 16, 1913; p 291; 3000 w; 10c.

Traphagen, F. W.—*Concentration Reverberatory Smelting of a Second-Class Ore.*—Met. & Chem. Engg., Sept., 1913; p 497; 3500 w; 35c.

Tupper, C. A.—*Lowering Furnace-Flux Costs.*—Mg. & Eng. World, June 28, 1913; p 1223; 3200 w*; 10c.

Uebbng, Paul.—*Versuche zur Verarbeitung zinkhaltiger Kieselbrände.* [Experiments on the utilization of zinc-carrying pyrites cinder].—Metall & Erz, July 22, 113, p 607; 3000 w*; 50c.

Vail, Richard H.—*New Smelter of the United Verde Copper Co., Arizona.*—E. & M. J., Aug. 16, 1913; p 287; 4000 w*; Aug. 23, 1913; p 341; 5000 w*; 25c.

Waters, Albert L.—*Experiments with an Oil-Burning Shaft Furnace.*—E. & M. J., Aug. 2, 1913; p 203; 2200 w*; 25c.

Wierum, H. F.—*Ore Bedding by the Tennessee Copper Co.*—E. & M. J., Sept. 6, 1913; p 485; 2800 w; 25c.

Wilder, Richardson T.—*Determination of Lead in Unchilled Slags.*—E. & M. J., Oct. 11, 1913; p 695; 1000 w; 25c.

Wright, Lewis T.—*The Reduction of Ferric Oxide by Ferrous Sulphide.*—E. & M. J., Nov. 1, 1913; p 825; 1300 w; 25c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institute der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School Aachen]; Vol 5.—Halle, 1913; 160 pp*; $5; (book).

Zimmerschield, K. W.—*Influence of Mass in Heat Treatment of Steel.* (Paper presented at annual meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 84; 1000 w*; 25c.

——— *Aglomeracion y Enriquecimiento de las Menas de Hierro y de los Hollines.* [Agglomeration and enrichment of iron ores and of smokes].—Revista Minera, Sept. 16, 1913; p. 445; 1500 w*; Sept. 24; p 461; 2200 w; 70c.

——— *Chenhall's Tin-Extraction Process.* (From Mg. Jnl.).—E. & M. J., Oct. 25, 1913; p 771; 800 w; 25c.

——— *Conseils pour la Production des Alliages d'Aluminium.* [Suggestions on the production of alloys of aluminum] (Translated from Eisen Ztg.).—Metallurgie, Oct. 1, 1913; p 783; 700 w; 35c.

——— *Copper Precipitants.* [Editorial].—E. & M. J., Dec. 27, 1913; p 1231; 650 w; 25c.

——— *Die Eisen und Maschinenindustrie Italiens im Jahre* 1912. [The iron and machinery industry of Italy in 1912].—Montan & Metallindustrie-Ztg., Aug. 10, 1913; p 5; 100 w; 35c.

———. *Die Eisen und Metallhüttenindustrie Frankreichs im Jahre* 1911. [The mining and metallurgical industry of France in 1911].—Glückauf, July 26, 1913; p 1190; 2200 w; 50c.

———. *Discoveries in Alumino-Thermal Reactions.*—Mg. & Eng. World, June 14, 1913; 1127; 800 w; 10c.

———. *Electric Welding.*—E. & M. J., July 26, 1913; p 162; 500 w*; 25c.

———. *Electrically-Operated Canadian Rolling Mill.*—Ir. Trade Rev., July 3, 1913; p 17; 2000 w*; 25c.

——— *Electro-Magnetic Ore Concentration by the Ullrich Separators.*—Mg. Jnl., London, Oct. 25, 1913; p 1022; 2800 w*; 35c.

———. *Electrométallurgie edu Fer et de l'Acier. Procédés Froges-Heroult.* [Electrometallurgy of iron and steel, Froges-Heroult process].—Revue d'Electrochemie et de Electrometallurgie, April, 1913; p 85;

800 w*, with table of Heroult furnaces in service and under construction; 75c.

——— *Extraction, Properties and Uses of Mercury.* (Abstract from Bull. Imp. Inst.).—Mg. & Eng. World, Oct. 25, 1913; p 751; 1500 w; 10c.

——— *Extensive Experiments with Titaniferous Ores.*—Iron Trade Rev., Oct. 30, 1913; p 797; 2000 w; 25c.

———. *Historical Note on Copper Smelting.* (Notes from Hoovers' translation of Book IX of Agricola).—E. & M. J., Aug. 23, 1913; p 359; 3000 w; 25c.

———. *Historical Note on Tin Smelting.* (Excerpt from Book IX of Hoover's Trans. of Agricola).—E. & M. J., Sept. 13, 1913; p 495; 1500 w; 25c.

——— *Historical Note on Zinc Smelting.* [Footnote from Hoover's translation of Agricola, Book IX].—E. & M. J., Oct. 18, 1913; p 741; 1900 w; 25c.

——— *L'Alto Forno Elettrico.* [The electric blast furnace].—Rass. Min. Metallurgica & Chim., Sept. 1, 1913; p 81; 2000 w; 35c

——— *Leaching of Copper Ores.*—E. & M. J., Oct. 4, 1913; p 651; 1100 w; 25c.

——— *Le Rôle des Scories dans la Raffinage de l'Acier Electrique.* [The role of slags in the refining of electric steel].—Revue Industrielle, Oct. 4, 1913; p 10; 1200 w; 35c.

——— *Le Traitement des Minerais de Cuivre au Four Electrique.* [The treatment of copper ores in the electric furnace].—Echo des Mines, Oct. 9, 1913; p 1034; 1500 w; 35c.

——— *Le Traitement des Minerais de Cuivre au Four Electrique.* [The treatment of copper ores in the electric furnace].—Jnl. du Four Electriq., Sept. 15, 1913; p 385; 1400 w; 35c.

——— *Les Gisements Aurifères du Département de l'Aude.* [The auriferous deposits of the department of Aude, France].—Echo des Mines, Oct. 6, 1913; p 1020; 1500 w; 35c.

———. *Les Hauts Fourneaux Electrigues.* [Electric blast furnaces].—Revue d'Electrochemie et d'Electrometallurgie, May, 1913; p 117; 2400 w; 75c.

———. *New Regenerative Heating Furnace.*—Met. & Chem. Eng., July, 1913; p 421; 1400 w*; 35c.

———. *Nickel Developments at Sudbury, Ontario.*—E. & M. J., Aug. 2, 1913; p 205; 1100 w; 25c.

———. *Nouveau Four Electrique Type Rennerfelt.* [New electric furnace of the Rennerfelt type].—Jnl. du Four Electriq., Aug. 15, 1913; p 339; 250 w*; 35c.

——— *Noveau Four à Induction, Système Crafts.* [A new induction furnace, Crafts system].—Jnl. du Four Electriq., Oct. 15, 1913; p 436; 500 w*; 35c.

——— *Scandinavian Electric Zinc Smelting.*—E. & M. J., Nov. 29, 1913; p 1030; 600 w; 25c.

———. *Sulphuric Acid Leaching.* [Editorial].—M. & S. P., Aug. 16, 1913; p 252; 1300 w; 20c.

———. *Sorting, Roasting and Smelting Nickel-Copper Ore, Canadian Copper Co.*—Canadian Mg. Jnl., Aug. 1, 1913; p 482; 4000 w*; 35c.

———. *Temperature Conversion Table.*—Met. & Chem. Eng., July, 1913; p 394; 1½ col.; 35c.

———. *The Dawson Process of Ore Treatment.*—Mg. & Eng. World, Sept. 13, 1913; p 470; 500 w; 10c.

———. *The Electric Smelting of Tin.*—S. Af. Mg. Jnl., June 7, 1913; p 386; 2000 w; June 14, 1913; p 405; 1200 w; 70c.

——— *The Howe Volatilization Process.*—M. & S. P., Oct. 4, 1913; p 535; 1300 w*; 20c.

———. *The Reduction of Lead-Copper Mattes in the Electric Furnace.* (Abstract from Proc. Inst. for Metal Smelting & Electromet. at Tech. Acad. of Aix-la-Chapelle).—Mg. & Eng. World, Aug. 2, 1913; p 217; 500 w; 10c.

——— *The Smelting of Tin Ore in the Electric Furnace.* (An article based on experiments carried out by H. Harden in Cornwall and described in Elektrotechnische Zeitschrift; translation).—Mg. Jnl., Oct. 18, 1913; p 1002; 1200 w; 35c.

——— *Ton, Zement und Kalk in der Bergwerk und Hüttenindustrie.* [Clay, cement and lime in the mining and metallurgical industries]. — Tonindustrie-Ztg., Aug. 14, 1913; p 1235; 1800 w; 35c.

——— *Transactions of the American Institute of Metals, Vol. VI,* 1912.—Buffalo, N. Y., Am. Inst. of Metals; 250 pp; $3 (book).

——— *Western Sections A. I. M. E. Joint Sessions at Wallace, Idaho.*—Mg. & Eng. World, Nov. 29, 1913; p 967; 5000 w; 10c.

——— *Zur Geschichte des russischen Hüttenwesens.* [On the history of the Russian metallurgical industry].—Bergwerks-Ztg., Oct. 19, 1913; p 1; 1200 w; 35c.

Fuels and Combustion

Kühl, Hans.—*Die Messung des Kohlenverbrauchs von Drehrohröfen durch die Rauch gas-Analyse;* [The measurement of coal consumption by analysis of the chimney gases].—Tonindustrie-Ztg., June 21, 1913; p 949; 3000 w; 35c.

Lang, Herbert.—*Oil-Burning in Furnace.*—M. & S. P., July 12, 1913; p 64; 800 w; 20c.

Schnabel, Direktor.—*Die Anwendung der Oberflächenverbrennung im Giessereiund Hüttenbetrieb.* [The application of surface combustion in foundry and smelting work.] (Address before Verein Deutscher Giessereifachleute).—Giesserei-Ztg., Nov. 1, 1913; p 653; 6000 w*; 35c.

Sorensen, S. Severin.—*Waste Heat Boilers in Reverberatory Furnace Flues.*—M. & S. P., Oct. 11, 1913; p 575; 1800 w*; 20c.

——— *Der Kohlenverbrauch in der deutschen Metallindustrie.* [The coal consumption in the German metal industry].—Centralblatt Hütten & Walzwerke, July 15, 1913; p 387; 1500 w; 35c.

——— *Progress in Fuel Utilization.* [Editorial].—M. & S. P., Oct. 25, 1913; p 638; 1000 w; 20c.

Fume, Gas and Flue Dust

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpt from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Douglas, James.—*Handling Flue-Dust at the Copper Queen Smelter.* (Reply to discussion of paper read before Inst. Mg. & Met.).—M. & S. P., Dec. 13, 1913; p 929; 1300 w*; 20c.

Eddy, L. H.—*What Has Been the Fume Damage in California?*—E. & M. J., July 26, 1913; p 153; 2000 w*; 25c.

Eilers, A.—*Bag-House at Omaha Plant of A. S. & R. Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 245; 3000 w*; 10c.

Forbes, W. A.—*The Cleaning of Blast-Furnace Gas.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2477; 38 pp*; 35c. Ir. & C. Trades Rev., Nov. 14, 1913; p 759; 1900 w*; 35c.

Freyn, Heinrich J.—*The Gas Engine in Modern Blast-Furnace and Steel Plants.* Abstract of paper read before Am. Ir. & St. Inst.).—I. & C. Tr. Rev., June 27, 1913; p 1047; 4500 w; 35c.

Helbig, A. B.—*Rauchdasanalyse und Koksverlust beim Drehrohrofen.* [Flue-gas analysis and coke loss in revolving tube furnace].—Tonindustrie-Ztg., July 26, 1913; p 1131; 1000 w; 35c.

Masselon, E.—*Épuration des Gaz de Hauts-Fourneaux.* [Purification of blast-furnace gas].—Le Métallurgie, July 30, 1913; p 600; 700 w*; 35c.

Metzler, R.—*Die Gasreinigung auf dem Hochofenwerk Servola;* [Gas purification at the Servola blast-furnace plant, Austria]. —Montanist. Rundschau, June 16, 1913; p 581; 2200 w*; 35c.

Rzehulka, A.—*Beiträge zur Frage der Gewinnung des Flugstaubes aus dem Hüttenrauch.* [Contributions to the question of the recovery of dust from smelter smoke]. —Centralblatt Hütten & Walzwerke, Sept. 5, 1913; p 487; 900 w; Sept. 15, 1913; p 509; 1300 w; 70c.

Wagner, Alf.—*Ueber Hochofen-Gichtgase, deren Verwendung und Reinigung.* [On blast-furnace waste gases, their utilization and purification].—Bergbau, Sept. 18, 1913; p 625; 1200 w; 35c.

———. *The Purification of Blast Furnace Gases* (Report of a paper read before Mg. & Met. Sect. of Société Industrielle de l'Est by C. Herweg on Feld washer).—Met. & Chem. Eng., July, 1913; p 399; 3850 w*; 35c.

Refractories, Walls and Lining

Croft, Harry W.—*Refractories in the Iron and Steel Industry.* (Paper read before Am. Iron & Steel Inst.).—Iron Age, Nov. 20, 1913; p 1163; 7000 w*; 30c. Chem. Engr., Nov., 1913; p 206; 2600 w; 35c. Iron Trade Rev., Dec. 25, 1913; p 1138; 3500 w; 25c.

Liddell, Donald M.—*Magnesite Crucibles.* —E. & M. J., Sept. 13, 1913; p 503; 1000 w; 25c.

Mathewson, E. P.—*Development of the Basic-Lined Converter for Copper Mattes.* (From Trans. Am. Inst. Mg. Engrs.).— Mg. & Eng. World, Aug. 2, 1913; p 212; 750 w*; 10c; M. & S. P., July 12, 1913; p 61; 750 w; 20c.

Rigg, Gilbert.—*The Deterioration of Firebricks During Service.*—Jnl. Ind. & Eng. Chem., July, 1913; p 549; 3250 w*; 65c.

Thamm, J.—*Neueres auf dem Gebiete feuerfester Erzeugnisse;* [Innovations in the field of refractory products].—Centralblatt, Hütten & Walzwerke, June 5, 1913; p 309; 2200 w; 35c.

Tone, F. J.—*Carborundum Refractories.*— Met. & Chem. Engr., Sept., 1913; p 485; 2400 w; 35c.

Wheeler, Archer E., and Krejci, Milo W. —*Monolithic Magnetite Linings for Basic Copper Converters.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2769; 5 pp; 35c.

———. *Die Untersuchung feuerfester Materialien.* [The investigation of refractory materials].—Eisen-Ztg., July 26, 1913; p 593; 1500 w; 35c.

——— *Schmelztemperaturen feuerfester Steine.* [Melting temperatures of fire-resisting stone].—Tonindustrie-Ztg., Sept. 18,

TESTING OF METALS, ETC.

Additon, A. Sydney.—*Underestimating the Cost of Milling Plants.*—M. & S. P., July 26, 1913; p 138; 6000 w; 20c.

Bates, P. H., Phillips, A. J., and Wig, Rudolph J.—*Action of the Salts in Alkali Water and Sea Water on Cements.*—Technologic Paper No. 12, Bureau of Standards, U. S. Dep. of Commerce; 157 pp*.

Becker, Richard.—*Die Methoden zur Untersuchung von Sprengstoffen.* [The methods for the investigation of explosives].— Technische Blätter, Aug. 31, 1913; p 278; 1000 w*; 35c.

Bedford, Robert H., and Hague, William. —*Rock-Drill Testing at the North Star, Cal.*—M. & S. P., Aug. 2, 1913; p 179; 2000 w*; 20c.

Belden, A. W.—*Foundry-Cupola Gases and Temperatures.*—Bull. 54, U. S. Bureau of Mines; 29 pp*.

Bennett, C. W., and Gilbert, H. N.— *Some Tests of the Edison Storage Battery.* —Trans. Am. Electrochem. Soc., Vol. 23, 1913; 7000 w*.

Benoit, G.—*Beitrag zur Beuhrteilung der Sicherheit von Drahtseilen.* [Contribution on the determination of the safety of wire ropes].—Glückauf, Aug. 23, 1913; p 1328; 2000 w; 50c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice, 1910 to 1913.*—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Brown, G. H., and Montgomery, E. T.— *Dehydration of Clays.*—Tech. Paper No. 21, Bureau of Standards, U. S. Dep. of Commerce; 23 pp*.

Bullens, D. K.—*Heat-Treated Automobile Frame Steel.*—Ir. Age, July 24, 1913; p 171; 2600 w*; 30c.

Burns, Daniel.—*Safety in Coal Mines, a Textbook of Fundamentals for Firemen and Other Workers in Mines.*—London, Blackie & Son; 158 pp*; $1 (book).

Comey, Arthur M., and Holmes, Fletcher B.—*Der Gebrauch des ballistischen Pendels zur Bestimmung der Stärke von Explosivstoffen.* [The use of the ballistic pendulum for determination of the strength of explosives] (Translation of paper read before the Eighth Internat. Cong. Applied Chem.).—Zts. Schiess & Sprengstoffw., July 15, 1913; p 265; 1600 w*; 35c.

Derihon, M.—*Notes on the Brittleness Test. For steels and forgings.* (Abstract of paper presented before Int. Assn. for Test. Materials).—Chem. Engr., June, 1913; p 244; 2000 w; 35c.

Egerton, Alfred.—*Wärmeprobe.* [The heat test of explosives] (Abstract translation of address before Soc. Chem. Ind.).—Zts. Schiess & Sprengstoffw., Oct. 15, 1913; p 390; 2200 w*; 35c.

Elwood, W. F.—*Efficiency Valuation of Fuels. Importance of Other Factors Than British Thermal Units and the Fusion Point of Ash.*—Colliery Engr., Aug., 1913; p 23, 1913; 2500 w*; 35c.

Flegel, Kurt.—*Welche Erfolge sind bei Anwendung des elektrischen Widerstandsthermometers zu Temperaturmessungen in Tiefbohrlöchern für die Theorie und Praxis zu erwarten?* [What results for theory and practice are to be expected from the use of the electric resistance thermometer for the measurement of temperatures in deep bore holes?].—Glückauf, Nov. 8, 1913; p 1847; 3000 w*; 50c.

Feret, R.—*Sur l'Activité Relative des Grains de Ciment selon leur Gedré de Finesse;* [Relative activity of cement grains according to fineness.]—Revue Matériaux, May, 1913; p 69; 2000 w; 75c.

Forstmann, Berhassessor.—*Die verschiedenen Bauarten von Wetteranziegern.* [The different types of mine-gas indicators].—Glückauf, June 28, 1913; p 1008; 9000 w*; July 5; p 1058; 5000 w*; $1.

Forstmann, Bergassessor.—*Prüfungsvorrichtungen für Sauerstoff-Atmungsgeräte.* [Testing appliances for oxygen-breathing apparatus].—Glückauf, Aug. 2, 1913; p 1216; 2200 w*; 50c.

Frazer, J. C. W., Hoffman, E. J., and Scholl, L. A., Jr.—*A Laboratory Study of the Inflammability of Coal Dust.*—Bull. 50, U. S. Bureau of Mines; 60 pp*.

Fremont, C.—*New Method for Mechanical Tests on Cast Iron.* (Abstract of paper read before Int. Cong. Appl. Chem.).—Chem. Engr., June, 1913; p 237; 2000 w*; 35c.

Frentzen, Alexander.—*Die Erdöl, Bitumen und Schwefellager von Tetjuschi.* [The petroleum, bitumen and sulphur deposits of Tetjuschi, Russia].—Petroleum, June 4, 1913; p 1121; 5200 w*; 60c.

Grard, C.—*Research on the Hardness of Steel.* (Abstract of paper presented before Int. Assn. of Test. Materials).—Chem. Engr., June, 1913; p 239; 5750 w*; 35c.

Graton, L. C., and Murdoch, Joseph.—*Microscopic Investigation Applied to Geology* (From Trans. Am. Inst. Mg. Engrs.).—Mg. Sci., July, 1913; p 39; 900 w; 35c.

Haber, F.—*Der Haber-Leiserche Schlagwetteranzeiger.* [The Haber-Lerser fire-damp indicator].—Montanist. Rundschau, Nov. 16, 1913; p 1099; 1500 w*; 35c.

Haber, F.—*Ueber Schlagwetteranzeige.* [On fire-damp indicating.] (Address in the Keiser Wilhelm Inst. for Chem. & Electrochem.).—Chemiker-Ztg., Oct. 30, 1913; p 1329; 1600 w*; 35c.

Hall, Clarence, and Howell, Spencer P.—*Investigations of Detonators and Electric Detonators.*—Washington, D. C.; Bull. 59, U. S. Bureau of Mines; 73 pp*.

Hall, Clarence, and Howell, Spencer P.—*The Selection of Explosives Used in Engineering and Mining Operations.*—Bull. 48, U. S. Bureau of Mines; 50 pp*.

Higgins, W. F.—*Methods and Apparatus Used in Petroleum Testing.*—Petr. Wld., London, June, 1913; p 268; 6500 w*; July, 1913; p 324; 3000 w*; 70c.

Higgins, W. F.—*Methods and Apparatus Used in Petroleum Testing.* (Paper read before Soc. Chem. Ind., London).—Jnl. of Soc. Chem. Ind., June 16, 1913; p 568; pp 6*; 65c.

Hinrichsen, F. W., and Taczak, S.—*Verfahren und Ergebnisse der Prüfung von Brennstoffen;* [Experiments and results of the testing of fuels] (Last part; deals with coal).—Glückauf, May 31, 1913; p 852; 2000 w*; 50c.

Hinrichsen, F. W., and Taczak, S.—*Verfahren zur Prüfung von Brennstoffen.* [Method for testing fuels].—Centralblatt Hütten & Walzwerke, July 5, 1913; p 367; 2300 w; 35c.

Holde, D.—*Beziehungen zwischen den Temperaturen der Dämpfe und der siedenden Flüssigkeit bei Kohlenwasserstoffgemischen.* [Relations between the temperatures of the boiling liquid with hydro-carbon mixtures].—Petroleum, June 18, 1913; p 1186; 1000 w; 60c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the Fiscal Year Ended June 30, 1912.*—U. S. Dep. of the Interior; 88 pp.

Hubert H.—*Present Methods of Testing.* [With special reference to the work of the Int. Test. Assn.] (Paper read before Iron & Steel Inst).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 341; 5000 w*; 35c.

Hutchinson, W. Spencer.—*An Assay for Corundum by Mechanical Analysis.* (Abstract of paper read before Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 29, 1913; p 972; 600 w; 10c.

Hyde, A. L.—*Siedepunkte von Nitroglycerinlösungen;* [Boiling points of nitroglycerin solutions] (Translated from communication to Eighth Internat. Congress Applied Chem.).—Zts. Schiess & Sprengstoffw., June 1, 1913; p 206; 1800 w*; 35c.

Kantorowicz, H.—*Ueber Erdöl und Erdwachs.* [On petroleum and mineral wax].—Chemiker-Ztg., Nov. 13, 1913; p 1394; 1800 w; 35c.

Kaufman, G.—*Zulässige Beanspruchung des Eisens im Eisenbeton;* [Permissible strains in reinforced concrete].—Ton-industrie-Zeitung, May 31, 1913; p 832; 900 w; 35c.

Kühl, Hans.—*Die Messung des Kohlenverbrauchs von Drehrohröfen durch die Rauch-gas-Analyse;* [The measurement of coal consumption by analysis of the chimney gases].—Tonindustrie-Ztg., June 21, 1913; p 949; 3000 w; 35c.

Laist, Frederick.—*Roasting and Leaching Tailings at Anaconda.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Sept. 27, 1913; p 545; 3200 w*; Oct. 7, 1913; p 599; 2800 w*; 20c.

Laucks, I. F.—*Principles and Methods of Ore Testing.*—E. & M. J., July 12, 1913; p 51; 1200 w; 25c.

Le Grix, G., and Broniewski, W.—*Sur la Dureté des Alliages Aluminium-Argent.* [On the hardness of the aluminium-silver alloys].—Revue de Metallurgie, Aug., 1913; p 1055; 3000 w*; $1.15.

Lemaire, Emannuel.—*Das Erwärmen der Drahtgeflechte der Sicherheitslampen in heissen Atmosphären;* [The heating of the wire gauze of safety lamps in hot atmospheres] (Experiments in Belgium; abstract from Annales des Mines de Belgique).—Zts. Zentral-Verbd. Bergbau-Betriebsl., June 1, 1913; p 322; 2400 w; 35c.

Lewes, Vivian B.—*Die Prüfung von Sicherheitssprengstoffen.* [The testing of safety explosives] (Translation from Jnl. Royal Soc. of Arts, April 4, 1913).—Zts. Schiess & Sprengstoffw., July 1, 1913; p 245; 3500 w; July 15; p 267; 2600 w; 70c.

Lord, N. W., Holmes, J. A., Stanton, F. M., Fieldner, A. C., and Sanford.—*Analyses of Coals in the United States, with Descriptions of Mine and Field Samples Collected Between July 1, 1904 and June 30, 1910.*—Bull. 22, U. S. Bureau of Mines; Part 1—Analyses, 321 pp; Part 2—Description of Samples; 1200 pp.

Merton, A. M.—*Specifications and Tests*

for Zinc Dust.—Mg. & Eng. World, June 28, 1913; p 1227; 2400 w; 10c.

Norris, George L.—*The Resistance of Steel to Wear.* (Paper presented before Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 75; 1200 w; 25c.

Ogradzinski, W., and Pilat, St. von.—*Molekulargewichtsbestimmungen bei Benzin.* [Molecular weight determinations of benzine].—Petroleum, June 8, 1913; p 1182; 1000 w; 60c.

Paul, James W.—*The Use and Care of Miners' Safety Lamps.*—Miners' Circular 12, U. S. Bureau of Mines; 16 pp*.

Perkins, W. B.—*Purchasers' Tests of Crude Fuel Oil.*—Power, Aug. 19, 1913; p 259; 1200 w*; 20c.

Pishel, Max A.—*The Pishel Coking Test.*—Coll'y Engr., July, 1913; p 674; 6000 w*; 35c.

Rice, George S., Jones, L. M., Clement, J. K., and Egy, W. L.—*First Series of Coal-Dust Explosion Tests in the Experimental Mine.*—Washington, D. C.; Bulletin 56, U. S. Bureau Mines; 115 pp*.

Rice, Geo. S., and Jones, L. M.—*Coal Dust Explosion Test, U. S. Bureau of Mines.*—Mg. & Eng. World, Oct. 18, 1913; p 701; 3000 w*; 10c. Black Diam., Oct. 11, 1913; 2500 w*; 25c.

Röder, K.—*Ueber Addampf und Zweidruckturbinen.* [On exhaust-steam and two-pressure turbines].—Elektrotechnik & Maschinenbau, June 22, 1913; p 536; 2800 w*; 50c.

Rosa, E. B., Vinal, G. W., and McDaniel, A. S.—*The Silver Voltameter—Part III. Second Series of Quantative Experiments and the Preparation and Testing of Silver Nitrate.*—Reprint No. 201 from Bull. Bureau of Standards, Vol. 9; 60 pp.

Rosenhain and Archbutt.—*Les Alliages d'Aluminium et de Zinc.* [The alloys of aluminum and zinc] (Translation in abstract of the Tenth Report of the Committee on Alloys).—Revue de Métallurgie, July, 1913; p 822; 8000 w*; $1.15.

Rzehulka, A.—*Die Untersuchung der Steinkohle in der Praxis des Kokereibetriebes mit Gewinnung der Nebenprodukte.* [The examination of coal in coking with the recovery of by-products].—Zts. Oberschles. Berg. & Hüttenm. Vereins, June, 1913; p 243; 6000 w*; 50c.

Scheller, A.—*Ueber Paraffin-Bestimmungen in Erdölen;* [On paraffine determinations in petroleum].—Petroleum, April 16, 1913; p 905; 800 w; 60c.

Schöttler, R.—*Regeln für Leistungsversuche an Ventilatoren und Kompressoren.* [Rules for capacity investigations of ventilators and compressors].—Fördertechnik, Aug., 1913; p 177; 2200 w*; 65c

Shore, Albert F.—*Notes on the Property of Toughness in Metals.* (Paper presented at meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 86, 1000 w*; 25c.

Simmersbach, Oskar.—*Ueber das Verhalten der flüchtigen Bestandteile der Kohle beim Erhitzen;* [On the behavior of the volatile constituents of coal on heating].—Berg & Hüttenmännische Rundschau, May 20, 1913; p 197; 2800 w; 35c.

Stauch, Karl.—*Die staatliche Versuchsanstalt für Schlagwetter, Kohlenstaub, Brandgase, usw. in Brüx.* [The government experiment station for firedamp, coal dust, etc., in Brüx, Bohemia].—Montanist. Rundschau, No. 17, 1913; p 829; 1200 w; 35c.

Stopnewitch, A.—*Geothermische Messungen.* [Geothermic measurements]. — Zts. Internat. Vereines Bohringenieure, Nov. 1, 1913; p 247; 2000 w; Nov. 15, 1913; p 259; 1200 w; 70c.

Strong, R. M., and Stone, L.—*Tests of Gasoline and Denatured Alcohol as Fuels for Engines.* (Abstract from Bull. 43, U. S. Bur. Mines).—Mg. & Eng. World, Dec. 27, 1913; p 1154; 700 w; 10c.

Taffanel, J.—*Station d'Essais de Liévin.* [The Liévin testing station, France] (Report to Assemblée Générale du Comité Central des Houillères de France).—Bull. Soc. Amicale Douai, Aug. 25, 1913; p 564; 3500 w; 35c.

Talbot, Arthur N.—*Reinforced Concrete Wall Footings and Column Footings.*—Bull. 67, Univ. of Ill. Exp. Station; 114 pp*; 50c.

Talbot, Arthur N., and Slater, Willis A.—*Tests of Reinforced Concrete Buildings Under Load.*—Bull. 64, Univ. of Ill. Eng. Experiment Station; 104 pp*; 60c.

Tye, A. T.—*A Simple Plant for Testing Efficiency.*—M. & S. P., July 12, 1913; p 53; 2500 w*; 20c.

Waters, C. E.—*The Evaporation Test for Mineral Lubricating and Transformer Oils.*—Technologic Paper 13, Bureau of Standards, U. S. Dep. of Commerce and Labor; 13 pp.

Weber, H. C. P.—*On a Modified Form of Stability Test for Smokeless Powder and Similar Materials.*—Bull. Vol. 9, No. 1, Bureau of Standards, U. S. Dep. of Commerce; p 119; 11 pp*. Jnl. Ind. & Engg. Chem., Aug., 1913; p 641; 4000 w*; 65c.

Wiebe, H. F.—*Die obere Brauchbarkeitsgrenze des Abel-Penskyschen Apparates und seine Vergleichung mit dem Penskyschen Flammenprüfer;* [The upper limits of usefulness of the Abel-Pensky apparatus and its comparison with the Pensky flame tester].—Petroleum, May 21, 1913; p 1061; 3000 w; 60c.

Wild, Edward. —*Ueber Paraffin und seine Verarbeitung.* [On paraffin and its preparation].—Petroleum, June 18, 1913; p 1182; 3500 w; 60c.

Woltersdorf, Bergassessor.—*Das Verhalten von Kohlenstaub mit verschiedenem Feuchtigkeitsgehalt gegen Schüsse von Schwarzpulver und Gurdynamit.* [The behavior of coal dust of various moisture content toward shots of black powder and dynamite].—Glückauf, Aug. 30, 1913; 4500 w; 50c.

Wüst, F.—*Mitteilungen aus dem Eisenhüttenmännischen Institute der Königl. Techn. Hochschule Aachen;* [Communications from the Iron Metallurgical Institute of the Royal Technical High School Aachen]; Vol. 5; (book).

Zimmerschield, K. W.—*Influence of Mass in Heat Treatment of Steel.* (Paper presented at annual meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 10, 1913; p 84; 1000 w*; 25c.

———. *Acetylene Lamps in Coal Mines; Tests of Carbide Lamps and Oil Lamps to Show Their Behavior in Atmospheres Containing Carbon Dioxide.*—Colliery Engr., Aug., 1913; p 49; 2000 w; 35c.

——— *A Drill Tester for the Shop.* (U. S. patent description).—E. & M. J., Nov. 1, 1913; p 289; 2400 w*; 25c.

———. *An Instrument for Measuring the Flow of Air or Gas.*—Coal Age, July 5, 1913; p 15; 450 w*; 20c.

——— *Der Flammpunkt der Oele.* [The flashing point of oils].—Chemiker & Tech. Ztg., Nov. 15, 1913; p 171; 1000 w; 35c.

——— *Die internationale Kommission zur Vereinheitlichung der Untersuchungsmethoden für die Haltbarkeit von Exnlosivstoffen.* [The international commission for standardization of methods of investigating the stability of explosives] (Abstract of report).—Zts. Schiess & Sprengstoffw., Sept. 15, 1913; p 345; 2200 w; Oct. 1; p 370; 1100 w; 70c.

———. *Die Untersuchung feuerfester Materialien.* [The investigation of refractory materials].—Eisen-Ztg., July 26, 1913; p 593; 1500 w; 35c.

———. *Government Analysis of Black Powder and Dynamite.* (Abstract of Bull. 51, U. S. Bureau of Mines).—Mg. & Eng. World, Aug. 2, 1913; p 203; 400 w; 10c.

———. *Many Iron and Steel Specifications Revised.* (Report of proc. of Annual Meeting of Am. Soc. for Test. Materials).—Ir. Trade Rev., July 3, 1913; p 27; 12,500 w; 25c.

——— *Metallographic Testing.*—Circular No. 42, U. S. Bureau of Standards; 16 pp.

———. *Products of Explosion.* (Abstract from Bull. 48, U. S. Bureau of Mines).—E. & M. J., Aug. 2, 1913; p 213; 800 w; 25c.

———. *Sur les Tamis des Lampes de Sûreté.* [On the gauzes of safety lamps].—Bull. Soc. Amicale Douai, May 25, 1913; p 308; 900 w; 35c.

———. *Testing for Carbon Monoxide.*—Colliery Engr., Aug., 1913; p 14; 1100 w; 35c.

———. *Testing Plants* (Editorial on governor's veto of appropriation for Colorado School of Mines).—Met. & Chem. Eng., July, 1913; p 368; 400 w; 35c.

———. *The Reduction of Lead-Copper Mattes in the Electric Furnace.* (Abstract from Proc. Inst. for Metal Smelting & Electromet. at Tech. Acad. of Aix-la-Chapelle).—Mg. & Eng. World, Aug. 2, 1913; p 217; 500 w; 10c.

——— *Transactions of the American Institute of Metals, Vol. VI,* 1912.—Buffalo, N. Y., Am. Inst. of Metals; 250 pp; $3 (book).

——— *Ueber Schlagwetteranzeige.* [On firedamp indications].—Bergbau, Nov. 6, 1913; p 739; 1300 w; 35c.

HYDROMETALLURGY

Alzugaray, Baxeres de.—*Rapid Advance Made in Copper Hydro-Metallurgical Methods.*—Mg. & Eng. World, June 28, 1913; p 1226; 1000 w; 10c.

Chauvenet, Regis. — *Hydrometallurgy; Joys of Its Theory, Woes of Its Practice.*—Met. & Chem. Engr., Sept., 1913; p 486; 7500 w; 35c.

Elder, Robert B.—*Study of the Leaching Process.*—Colo. Sch. of Mines Mag., Sept., 1913; p 205; 1000 w*; 35c.

Hoffman, H. O.—*General Metallurgy.*—New York: McGraw-Hill Book Co.; 909 pp*; $6 (book).

Peterson, Peter E.—*Bullwhacker Leaching Plant, Butte, Mont.*—Mg. & Eng. World, Oct. 4, 1913; p 585; 1800 w*; 10c.

Read, Thomas T.—*Copper Smelting Practice in the Southwest.*—M. & S. P., Oct. 4, 1913; p 521; 8000 w*; 20c.

Sembdner, Dr.—*Einiges aus der Zinnhüttenpraxis.* [Notes on tin-metallurgy practice].—Metall & Erz, Sept. 22, 1913; p 772; 3200 w; 50c.

Slater, H. B.—*Slater Lixiviation Process.* [Communication].—E. & M. J., Dec. 13, 1913; p 1133; 1300 w; 25c.

——— *Chenhall's Tin-Extraction Process.* (From Mg. Jnl.).—E. & M. J., Oct. 25, 1913; p 771; 800 w; 25c.

——— *Copper Precipitants.* [Editorial]. E. & M. J., Dec. 27, 1913; p 1231; 650 w; 25c.

——— *Leaching of Copper Ores.*—E. & M. J., Oct. 4, 1913; p 651; 1100 w; 25c.

——— *Reducing Losses.* [Editorial.]—E. & M. J., Nov. 15, 1913; p 942; 1300 w; 25c.

METALLURGY GENERAL

Alzugaray, Baxeres de.—*Rapid Advance Made in Copper Hydro-Metallurgical Methods.*—Mg. & Eng. World, June 28, 1913; p 1226; 1000 w; 10c.

Barnhurst, H. R.—*The Use of Pulverized Coal as a Fuel for Metallurgical Furnaces.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2523; 10 pp; 35c. Abstract in Iron Age, Oct. 23, 1913; p 906; 3500 w*; 30c. Iron & Coal Tr. Rev., London, Nov. 7, 1913; p 725; 2800 w; 35c,

Block, Berthold.—*Auslaugung and Trennung.* [Leaching and separation of solids from liquids].—Chemiker-Ztg., Nov. 20, 1913; p 1425; 3400 w*; 35c.

Caetani, Gelasio.—*Economics of Milling.*—Mg. Mag., London, Aug., 1913; p 125; 4700 w*; 35c.

Caetani, Gelasio.—*General Principles of Mill Design.*—Mg. Mag., London, June, 1913; p 435; 5500 w*; 35c.

Clerc, F. L.—*Condensation of Zinc Gas to Liquid, in the Presence of Inert Gas.*—Met. & Chem. Engg., Nov., 1913; p 637; 3000 w*; 35c.

Clevenger, G. Howell.—*The Temperature of Certain Operations in the Metallurgy of Copper and Lead.*—Met. & Chem. Engg., Aug., 1913; p 447; 2500 w*; 35c.

Coleman, A. P.—*Metallurgy of Sudbury Copper-Nickel Ores.* (Abstract from Monograph issued by Dept. of Mines, Canada; p 1069; 2600 w; 10c.

Coleman, A. P.—*Nickel Smelting by the Mond Process.* (Excerpt from Bull. 170, Canada Dept. Mines).—M. & S. P., Sept. 13, 1913; p 412; 6000 w*; 20c.

Crawford, John, Jr.,—*Electric Smelting as Conducted at Heroult, California.* (Abstract of address delivered before Mining Congress of Northern California and Southern Oregon).—M. & S. P., June 28, 1913; p 897; 4500 w; 20c.

Croft, Harry W.—*Refractories in the Iron and Steel Industry.* (Paper read before Am. Iron & Steel Inst.).—Iron Age, Nov. 20, 1913; p 1163; 7000 w*; 30c.

Dickson, Gordon F.—*Cam and Motor Metallurgy.* [Describes method of treating Rhodesian gold ore containing arsenic and antimony].—Mg. Mag., Aug., 1913; p 132; 2800 w*; 35c.

Duchez, J. E.—*La Fabrication de la Chaux pour Aciéres et les Fours a Chaux de Montgrignon, prés Verdun;* [Lime burning for steel-making and lime kilns at Montgrignon].—Revue Matériaux, May, 1913; p 73; 600 w*; 75c.

Dünkelberg, Bergassessor. — *Uebersicht über die Entwickelung des schlesischen Berg und Hüttenwesens.* [A review of the development of Silesian mining and metallurgy].—Glückauf, Aug. 30, 1913; p 1358; 4500 w; 50c.

Febles, J. C.—*Precipitation of Copper from Mine Waters.* (Transactions Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 23, 1913; 2500 w; 10c.

Garrison, F. Lynwood.—*Agricola: An Appreciation.*—M. & S. P., Aug. 9, 1913; p 218; 5500 w*; 20c.

Gevers-Orban.—*The Distillation of Tar in Metallurgical Practice.* (Paper read before Iron & Steel Inst. at Brussels).—Colly. Engr., London, Sept. 12, 1913; p 527; 1800 w*; 35c.

Hahn, O. H.—*The Kedabeg Copper-Smelting Works in the Caucasus.* (Abstract from Gluckauf).—E. & M. J., July 5, 1913; p 15; 4000 w*; 25c.

Haldane, W. G.—*Crude Oil for the Assay Furnace.*—E. & M. J., Dec. 6, 1913; p 1073; 1200 w*; 25c.

Hale, E. W.—*Copper Matte and Base Bullion from an Electric Spelter Furnace.*—M. & S. P., Dec. 20, 1913; p 974; 1500 w; 20c.

Hall, William A.—*The Hall Ore Desulphurizing Process.*—E. & M. J., July 5, 1913; p 35; 2000 w; 25c.

Hebbard, James.—*Evolution of Minerals Separation Process on Central Mine, Australia.*—Trans. Aus. Inst. M. E., No. 10; 1913; 88 pp*; 75c.

Heberlein, Ferdinand.—*An Excursion to North American Smelting Works.* (Address delivered before Gesellschaft Deutscher Metallhütten und Bergleute; printed in Metall und Erz and translated by Herbert Hass.).—M. & S. P., Nov. 8, 1913; p 713; 7000 w; 20c.

Heberlein, F.—*Lead, Zinc and Copper Smelting in America.* (A record of observations on current American metallurgical practice compared with European; translation in Metall und Erz).—E. & M. J., Nov. 8, 1913; p 871; 3500 w*; 25c.

Hirshberg, L. K.—*Chemical and Metallurgical Miscellany.*—Mg. & Eng. World, Dec. 13, 1913; p 1067; 2300 w; 10c.

Hofman, H. O.—*General Metallurgy.* 909 pp. $6 (book).

Hoover, Herbert C. and Lou C.—*Translation of De Re Metallica, by Georgius Agricola* (1556). 640 pp. $8 (book).

Horsfall, H. A.—*Treatment of Complex Silver Ores for Small Mines.*—Mg. Scl., July, 1913; p 36; 2200 w; 35c.

Houbaer, E.—*The Utilization of Blast-Furnace and Coke-Oven Gases in Metallurgy.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 349; 20,000 w*; 35c. Iron Age, Sept. 28, 1913; p 608; 3700 w; 30c.

Howe, Ben.—*New Process of Gold Recovery by Volatilization.* (Abstract from Jnl. Chamb. Mines, W. Aust.).—Mex. Mg. Jnl., June, 1913; p 292; 1500 w; 25c.

Irving, Joseph.—*Lixiviation of Low-Grade Copper Ores.*—S. L. Mg. Rev., July 30, Aug. 15, Aug. 30, 1913; 10,000 w*; 75c.

Johnson, F.—*Improving the Quality of Arsenical Copper.* (Abstract of paper read before British Inst. of Metals).—Mg. & Eng. World, Dec. 13, 1913; 400 w; 10c.

Johnson, J. E., Jr.—*The Iron Blast Furnace and the Characteristics of Its Fuels.*—Met. & Chem. Engg., Dec., 1913; p 687; 10,000 w; 35c.

Johnson, Woolsey McA.—*Byproducts in Electric Zinc Smelting.*—E. & M. J., Dec. 20, 1913; p 1157; 3000 w*; 25c.

Johnson, Woolsey McA., and Sieger, George N.—*Electric Furnaces, Their Design, Characteristics and Commercial Application.*—Met. & Chem. Engr., Oct., 1913; p 563; 4500 w*; 35c.

Jones, A. H.—*Precipitate Melting at the New Belmont Mill, Nevada.*—E. & M. J., June 14, 1913; p 1197; 650 w*; 25c.

Laist, Frederick.—*Roasting and Leaching Tailings at Anaconda.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Sept. 27, 1913; p 545; 3200 w*; Oct. 7, 1913; p 599; 2800 w*; 20c.

Laveleye, E. De.—*Historical Survey of the Metallurgy of Iron in Belgium.* (Paper read before Iron & Steel Inst.).—Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 327; 9000 w*; 35c.

Lord, N. W., and Demorest, D. J.—*Metallurgical Analysis.* 334 pp. $2.50 (book).

Louvrier, F.—*Comparison Between Electric and Fuel Furnaces.*—Mex. Mg. Jnl., Sept., 1913; p 427; 3100 w; 35c.

Macgregor, Frank S.—*Progress in Electrostatic Ore Dressing.* (Abstract of paper read before 24th annual meeting Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1071; 1900 W; 10c.

Maclachlan, M. W.—*A System of Keeping Mine and Mill Accounts, Costs and Metallurgical Records.*—Jnl. Chem., Met. & Mg. Soc. of S. Af., Sept., 1913; p 138; 12 pp*; 75c.

Maguire, Don, and Howard, L. O.—*The Romance of a Famous Gold Mine.* [Con. Mercur].—S. L. Mg. Rev., July 15, 1913; 7500 w*; 25c.

Mathesius, W.—*Investigations of Blast Furnace Operations.* (Translation from Stahl und Eisen).—Chem. & Met. Engg., Dec., 1913; p 699; 6000 w*; 35c.

McLaughlin, J. P. M.—*The New Smelting Works of the Calumet & Arizona Co.*—S. L. Mg. Rev., Oct. 30, 1913; p 15; 4000 w*; 25c.

McLeod, A. W.—*Metallurgical Tendencies in Western Australia.* (Abstract from Kalgoorlie Miner).—M. & S. P., Sept. 13, 1913; p 424; 2500 w*; 20c.

Megraw, Herbert A.—*The Gold Road Cyanide Mill, Arizona.*—E. & M. J., July 5, 1913; p 3; 3000 w*; 25c.

Merton, A. M.—*Zinc-Dust Precipitation of Gold and Silver.*—Mg. & Eng. World, Sept. 6, 1913; p 429; 2500 w; 10c.

Newman, J. Malcolm.—*Metallurgy at Broken Hill* (Abstracted from Aust. Mg. Stand.).—M. & S. P., Aug. 23, 1913; p 307; 2400 w*; 20c.

Pazos y Sacio, Vincente.—*Smelting in Shaft Furnaces in Great Altitudes.*—Sch. of Mines Quarterly, July, 1913; p 344; pp 15*; 65c.

Peter, F.—*The Generation of Steam by Waste Heat from Furnaces.*—Trans. Am. Inst. Mg. Engrs., Bull. 84; Dec., 1913; p 2775; 29 pp*; 35c.

Peterson, Peter E.—*Copper Leaching at Butte, Mont.*—Mg. & Eng. World, Sept. 6, 1913; p 423; 2600 w*; 10c.

Peterson, Peter E.—*The Electric Furnace for Zinc Smelting.*—Mg. & Eng. World, Aug. 16, 1913; p 303; 1500 w; Sept. 27, 1913; p 549; 2300 w*; 20c.

Pratt, R. Stephen.—*Semi-Pyritic Smelting in Mexico;* [Minneapolis Co.'s plant].—E. & M. J., June 14, 1913; p 1191; 1600 w; 25c.

Prost, Eug., and Van de Casteele, A.—*Recherches Concernant l'Influence des Métaux Etrangers sur le Laminage du Zinc.*

[Researches concerning the influence of foreign metals on the rolling of zinc].—Bull. Soc. Chimique dex Belgique, June, 1913; p 175; 5000 w; 75c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.* (First article).—Mg. & Eng. World, June 21, 1913; p 1179; 2200 w*; 10c.

Pulsifer, H. B.—*Lead Smelting at Herculaneum, Missouri.* (Plant of the St. Joseph Lead Co.).—Mg. & Eng. World, Dec. 13, 1913; p 1054; 6500 w*; 10c.

Pulsifer, H. B.—*Lead Smelting Plant at Collinsville, Ill.* [St. Louis Smelting & Refining Co.].—Mg. & Eng. World, Oct. 18, 1913; p 681; 4500 w*; 10c.

Pulsifer, H. B.—*The Federal Lead Co.'s Smelting Plant.*—Mg. & Eng. World, Aug. 30, 1913; p 375; 3200 w*; 10c.

Pulsifer, H. B.—*The Microstructure of Metals.*—Chem. Engr., June, 1913; p 228; 5500 w*; 35c.

Reid, Fraser.—*Milling at Cobalt, Ontario.* (Paper read at reception tendered Int. Geol. Cong. at Cobalt; abstract).—M. & S. P., Aug. 9, 1913; p 216; 2100 w*; 20c.

Reid, F. W.—*Broken Hill Proprietary Works, South Australia.* (Abstract from Mg. & Eng. Rev.).—Mg. & Eng. World, Nov. 22, 1913; p 923; 3200 w; 10c.

Richards, Robert H.—*Ore-Dressing Improvements.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2299; 6 pp; 35c.

Rowse, W. C.—*Pitot Tubes for Gas Measurement.* (Abstract from Jnl. Am. Soc. Mech. Engrs.).—Nov., 1913; p 641; 2500 w*; 35c.

Schobner, Franz.—*Füllkörper für Reaktionstürme und Wärmespeicher.* [Filling bodies for reaction towers and heat regenerators].—Tonindustrie-Ztg., Sept. 18, 1913; p 1429; 3000 w*; 35c.

Schoeller, W. R.—*Experiments on the Hydrometallurgical Treatment of Copper Slimes.*—Jnl. Soc. Chem. Ind., London, July 15, 1913; p 677; 8 pp*; 65c.

Sharwood, W. J.—*Calculation of Extraction in Cyanidation.* [Communication].—E. & M. J., Nov. 15, 1913; p 937; 3600 w; 25c.

Shellshear, W.—*Calculations for Sulphuric Acid in Vatts.*—Mg. & Eng. Rev., Aug. 5, 1913; p 433; 300 w; 35c.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.* [Lundborg, Dorr & Wilson Plant; New Reliance].—Mg. & Eng. World, July 5, 1913; p 9; 2000 w*; 10c.

Simmons, Jesse.—*The Homestake and Wasp, Two Low-Grade Gold Mines.*—Mg. Mag., July, 1913; p 47; 1500 w*; 35c.

Sorensen, S. S.—*Roasting at Steptoe Valley Smelting Works, Nevada.*—E. & M. J., June 28, 1913; p 1273; 1500 w*; 10c.

Sorensen, S. Severin.—*Waste Heat Boilers in Reverberatory Furnace Flues.*—M. & S. P., Oct. 11, 1913; p 575; 1800 w*; 20c.

Stone, George C.—*Belgian Furnaces in Zinc Smelting.* (Paper read before N. Y. section Am. Inst. Mg. Engrs.).—M. & S. P., Dec. 13, 1913; p 931; 2000 w; 20c.

Storms, W. H.—*Sixty Years of Mining in California.*—Mg. & Eng. World, Sept. 20, 1913; p 515; 4000 w; 10c.

Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 29, 1913; p 963; 2500 w*; 10c.

Sweetser, R. H.—*Blowing-In a Blast Furnace.* (Paper presented at Cleveland meeting Am. Inst. Mg. Engrs.; abstract).—Ir. Tr. Rev., July 24, 1913; p 169; 3000 w*; 25c.

Thompson, N. H., and Sicka, L. T.—*Tooele Plant of the International Smelting & Refining Co.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, Aug. 16, 1913; p 291; 3800 w; 10c.

Vail, Richard H.—*New Smelter of the United Verde Copper Co., Arizona.*—E. & M. J., Aug. 16, 1913; p 287; 4000 w*; 25c.

——— *Chemical Treatment of Low-Grade Ores.*—Mg. & Eng. World, Sept. 20, 1913; p 499; 600 w; 10c.

——— *Desulphurizing Cobalt (Ont.) Ores.* [Editorial].—M. & S. P., Sept. 27, 1913; p 483; 1000 w; 20c.

——— *Dry Concentration and Separation of Minerals.* (Describes the Plumb Pneumatic Jig).—Met. & Chem. Engg., Dec., 1913; p 722; 3000 w*; 35c.

———. *Evolution of the Mineral Separation Process.* (Abstract of paper read at A. I. M. E. conference at Broken Hill, N. S. W.).—Mg. & Engg. Rev., London, June, 1913; p 366; 3200 w*; 35c.

———. *Leaching Copper Ores in Chile.*—M. & S. P., June 21, 1913; p 933; 1200 w; 20c.

——— *Procédé Bourgeot pour Minerais de Zinc et de Cuivre.* [Bourgeot process for treatment of ores of zinc and copper].—L'Echo des Mines, Aug. 14, 1913; p 891; 1000 w; 35c.

——— *Reducing Losses.* [Editorial.]—E. & M. J., Nov. 15, 1913; p 942; 1300 w; 25c.

——— *Some Lines for Metallurgical Research.* [Editorial].—Mg. & Eng. World, Dec. 13, 1913; p 1052; 1100 w; 10c.

——— *Sorting, Roasting and Smelting Nickel-Copper Ore, Canadian Copper Co.*—Canadian Mg. Jnl., Aug. 1, 1913; p 482; 4000 w*; 35c.

——— *The Bromo-Cyanide Process Litigation.* [Editorial].—M. & S. P., Sept. 13, 1913; p 407; 2400 w; 20c.

——— *The Cleaning of Blast-Furnace Gas.* [Discussion of paper read at New York meeting].—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2953; 34 pp*; 35c.

——— *The Howe Volatilization Process.*—M. & S. P., Oct. 4, 1913; p 535; 1300 w*; 20c.

———. *The Nipissing Mine, Ontario.*—Mg. Mag., London, June, 1913; p 402; 1200 w; 35c.

———. *The Trend of Metallurgical Engineering on the Rand.*—S. A. Mg. Jnl., Aug. 2, 1913; p 589; 1500 w; 35c.

——— *The Use of Pulverized Coal as a Fuel for Metallurgical Furnaces.* [Discussion of paper read at New York meeting].—Trans. Am. Inst. Mg. Engrs., Dec., 1913; p 2857; 7 pp; 35c.

POWER AND MACHINERY.*

CHAPTER XIX.

ELECTRICITY

In Mines

Aikens, Warren.—*Distributing Power to Arizona Mines.*—Mg. & Eng. World, Sept. 20, 1913; p 501; 1800 w*; 10c.

Aikens, Warren.—*Electric Power for Missouri-Kansas Zinc Mines.*—Mg. & Eng. World, Aug. 16, 1913; p 295; 1000 w*; 10c.

Aikens, Warren.—*Electrical Power for Central Arizona Mines.*—Mg. & Eng. World, Oct. 11, 1913; p 635; 2300 w*; 10c.

Ambrose, John E.—*Shotfiring and Watering Systems in Utah Mines.*—Coal Age, Oct. 11, 1913; p 536; 2400 w*; 20c.

Anderson, Arvid R.—*The Storage Battery Locomotive in Coal Mines.*—Colly. Engr., Oct., 1913; p 146; 5000 w*; 35c.

Anson, J. W.—*Electrical Distribution for Mines.* (Abstract of paper read before S. Af. Inst. El. Engrs.).—Electrician, London, June 27, 1913; p 491; 2000 w; 35c. Iron & Coal Tr. Rev., London, Sept., 1913; p 391; 3000 w; 35c.

Aust, J. F.—*Practical Notes on Colliery Electrical Equipment.* (Paper read before Lancashire Branch Assn. Mg. Elec. Engrs.).—Iron & Coal Trade Rev., Dec. 5, 1913; p 886; 2500 w*; 35c.

Bentham, John.—*Testing Transformers for Colliery Work.* (Paper read before Yorkshire Branch Assn. Mg. Elec. Engrs.).—Iron & Coal Trade Rev., Dec. 5, 1913; p 288; 4800 w; 35c.

Blau, Ernst. — *Elektrisch betriebene Hauptschacht-Fördermaschinen mit Dampfturbinenantrieb der Anlassdynamo.* [Electrically driven main-shaft hoisting engine with steam-turbine drive for the starting dynamo].—Elektrotechnik & Maschinenbau, Sept. 7, 1913; p 764; 2500 w*; 50c

Boggess, M. W.—*Electric Hoisting on the Mother Lode.*—Jnl. Elec. P. & G., Sept. 6, 1913; p 211; 2000 w*; 35c.

Bolles, F. G.—*An Electric Drag-Line Installation in Clay Works.*—Br. & Clay Rec., July 15, 1913; p 171; 1800 w*; 25c.

Brandt, Wm. Van C.—*Storage Batteries for Mine Locomotives.*—Coal Age, Dec. 6, 1913; p 848; 1200 w; 20c.

Brehm, Clyde G.—*Safeguarding Electricity in Mines.* (Paper read before Coal Mg. Inst. of Am.).—Coal Age, Dec. 6, 1913; p 854; 2400 w; 20c.

Brehm, Clyde G.—*The Use of Electricity in Mines.*—Coal Age, Dec. 6, 1913; p 850; 2300 w*; 20c.

Bulkley, J. N.—*Efficiencies of two Rand Electric Hoists.*—E. & M. J., Aug. 2, 1913; p 211; 800 w*; 25c.

Clark, H. H.—*Portable Electric Mine Lamps in Mine Work.* (Address delivered before Coal Mg. Inst. America).—Mg. & Eng. World, Dec. 6, 1913; p 1019; 5000 w; 10c. M. & S. P., Dec. 13, 1913; p 934; 1000 w; 20c.

Clark, H. H.—*Safety Electric Switches for Mines.*—Washington, D. C.; Technical Paper 44, U. S. Bureau of Mines; 8 pp.

Clark, H. H.—*Selection of Portable Electric Mine Lamps* (Paper read before Coal Mg. Inst. of Am.).—Coal Age, July 12, 1913; p 54; 400 w*; 20c. M. & S. P., July 12, 1913; p 62; 750 w; 20c.

Clark, H. H.—*The Use of Portable Electric Mine Lamps.* (Technical paper No. 47, U. S. Bureau of Mines; abstract).—Mg. & Eng. World, Aug. 30, 1913; p 381; 2200 w; 10c.

Crocker, William J.—*Standardizing Mine Supplies and Work.*—Mg. & Eng. World, Nov. 22, 1913; p 927; 1900 w; 10c.

Colburn, E. A., Jr.—*An Electric Mine-Signal System.*—M. & S. P., Aug. 30, 1913; p 340; 700 w*; 20c.

Cullen, Wm. — *Electric Blasting.*—Jnl. Chem. Met. & Mg. Soc. of S. Af., Oct., 1913;

Easton, W. H.—*Electricity vs. Steam for Winches.*—Coal Age, Dec. 27, 1913; p 976; 700 w*; 20c.

Edwards, Geo. E.—*Season's Developments on the Lake Iron Ranges.*—Mg. & Eng. World, Nov. 8, 1913; p 825; 4000 w*; 10c.

Elwood, W. F.—*Stray Electric Currents in Coal Mines.* (Paper read before Coal Mg. Inst. of Am.).—Coal & Coke Opr., Dec. 11, 1913; p 105; 2200 w*; 20c.

Fisken, J. B.—*Electrical Applications in the Coeur d'Alenes* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 26, 1913; p 149; 3000 w*; 10c.

Flegel, Kurt.—*Welche Erfolge sind bei Anwendung des elektrischen Widerstandsthermometers zu Temperaturmessungen in Tiefbohrlöchern für die Theorie und Praxis zu erwarten?* [What results for theory and practice are to be expected from the use of the electric resistance thermometer for the measurement of temperatures in deep bore holes?].—Glückauf, Nov. 8, 1913; p 1847; 3000 w*; 50c.

Freeman, W. E.—*Safeguards in the Use of Electricity in Mines.* (Paper read before Kentucky Mg. Inst.).—Coal & Coke Opr., Dec. 18, 1913; p 125; 2800 w; 25c.

Gillie, John.—*Use of Electricity in Mining in the Butte District.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2309; 4 pp; 35c. Mg. & Eng. World, Nov. 22, 1913; p 926; 1300 w; 10c.

Girdwood, Kennet J.—*Electric Hoisting and Electricity for Mining.* (Trans. Mex. Sec. Am. Inst. Elec. Engrs.).—Mex. Mg. Jnl., Sept., 1913; p 437; 2600 w*; 35c.

Götz, Otto.—*Doppel-Schachtsignal und Fernsprechanlage der Gewerkschaft Bar-*

NOTE.—For drills, pumps, fans, haulage and winding engines, dredges, excavators, crushers, separators, conveyors, transportation, machinery, etc., see respectively "Drilling and Boring," "Pumping," "Ventilation" and other appropriate headings in "Mine and Mining," "Mill and Milling," and "Miscellaneous."

tensleben. [Double shaft-signal and telephone system of the Bartensleben Mg. Co.]. —Kali, Nov. 1, 1913; p 529; 1500 w*; 35c.

Gullachsen, B. C.—*Electric Blasting on the Rand.*—S. Afr. Mg. Jnl., Oct. 18, 1913; p 162; 1300 w; 35c.

Gunsaulus, Edwin N.—*Rand Mine Blasting by Electricity.* (U. S. Consular Report).—Mg. & Eng. World, Dec. 6, 1913; p 1013; 250 w; 10c.

Hallwood, E. A.—*Flame vs. Electric Safety Lamps.* (Paper prepared for Am. Mg. Congress meeting).—Coal Age, Dec. 6, 1913; p 853; 1900 w; 20c.

Hall, J. J., and Booth, F. L.—*Ashington and Ellington Collieries, Great Britain.*—Iron & Coal Trade Rev., London, Nov. 21, 1913; p 795; 9500 w*; 35c.

Heather, H. J. S.—*Electrical Engineering for Mechanical and Mining Engineers.* 324 pp. $3.50 (book).

Heyer, W.—*Ueber elektrische Schachtfördermaschinen.* [On electrical shaft-hoists].—Technische Blätter, Aug. 31, 1913; p 284; 2100 w; 35c.

Higgins, Will C.—*The Spring Canyon Coal Co., Utah.*—S. L. Mg. Rev., June 30, 1913; p 9; 3500 w*; 25c.

Hurter, Charles S.—*Electric Blasting.*—M. & S. P., Nov. 8, 1913; p 734; 850 w; 20c.

Jackson, H. D.—*Use of Purchased Power in Coal Mines.*—Coal Age, June 28, 1913; p 982; 2500 w*; 20c.

James, W. Ewart, and Hall, Geo. W.—*The Carbon Coal Co.'s Central Plant.*—Coal Age, Aug. 9, 1913; p 200; 3000 w*; 20c.

Jones, W. R.—*The Electrical Equipment of a Modern Coal Mine.*—Coal Age, Dec. 6, 1913; p 843; 1500 w*; 20c.

Kellogg, L. O. — *A Methuselah among American Mines.*—E. & M. J., Sept. 6, 1913; p 431; 1000 w*; 25c.

Kellogg, L. O.—*The Magnetite Mines Near Port Henry, N. Y.*—E. & M. J., Nov. 8, 1913; p 863; 4000 w*; 25c.

Kennedy, Geo. M.—*The Electric Mining Locomotive.*—Coal Age, Oct. 18, 1913; p 577; 3700 w; 20c.

Kersten, J.—*Installation dans les Puits de Mines de Signaux Pouvant être Manoeuvrés des Cages en Mouvement.* [Installation of signals in mine shafts for controlling cages in motion].—Annales des Mines Belgique, 1913, Vol. 18, No. 3; p 697; 3700 w*; 65c.

Lof, Eric A.—*Electric Mine Haulage.*—Colly. Engr., Dec., 1913; p 301; 4000 w*; 35c.

Malcolmson, James W.—*Electric-Power Installation at El Tigre Mine, Mexico.* (Trans. Am. Inst. Mg. Engrs.; abstract). —Mex. Mg. Jnl., June, 1913; p 297; 2200 w; 25c.

Matthews, Thomas J.—*Notes on Electricity in Mines.*—Mg. Engg., London, Aug., 1913; p 156; 2800 w; 35c.

McDonald, P. B.—*Developments on Michigan Iron Ranges.*—E. & M. J., Aug. 23, 1913; p 335; 4500 w*; 25c.

Moynihan, E. J.—*Electric Blasting on the Rand.*—S. Af. Mg. Jnl., Sept. 27, 1913; p 96; 1200 w; 35c.

Newton, Leonard V.—*Field Test of the Electric Locomotive.*—Colly. Engr., Oct., 1913; p 157; 1200 w*; 35c.

Nicholson, H. H.—*Hertzian Waves in Locating Ores.*—Mg. Sci., July, 1913; p 26; 500 w; 35c.

Nordberg, Bruno.—*Compressed-Air System at Anaconda (Mont.) Mines.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 15, 1913; p 881; 3200 w; 10c.

Oliver, Thomas.—*Electricity and Coal Dust.* (Abstract of address delivered before Section of Industrial Hygiene at the Paris Congress).—Colly. Guard., London, July 18, 1913; p 123; 2500 w*; 35c.

Packard, George A.—*Evolution of an Electric Signal System.*—E. & M. J., Oct. 18, 1913; p 737; 1300 w*; 25c.

Palmer, Leroy A.—*Tungsten in Boulder County, Colorado.*—E. & M. J., July 19, 1913; p 99; 4000 w*; 25c.

Patchell, W. H.—*Application of Electric Power to Mines and Heavy Industries.*—New York, D. Van Nostrand Co.; 333 pp*; $4 (book).

Perkins, Frank C.—*Electric Shoveling Machine for Underground Work.*—C. & C. Op., July 24, 1913; p 274; 1200 w*; 25c.

Philippi, W.—*Sobre la Cuestion de la Economia en el Uso de las Maquinas Electricas de Extraccion en los Grandes Pozos.* [On the question of economy in the use of electrical hoisting machines in large shafts] (From Glückauf).—Revista Minera, July 24, 1913; p 357; 1800 w*; Aug. 1; p 371; 1500 w*; Aug. 8; p 388; 2200 w*; $1.05.

Reuter, Franz.—*Die neuste Entwickelung der Eisenerzversorgung der oberschlesischen Hochofenindustrie.* [The newest development of the iron-ore supply of the Upper Silesian blast-furnace industry].—Glückauf, Nov. 15, 1913; p 1892; 4300 w; Nov. 22; p 1925; 8000 w*; $1.

Rice, A. S.—*Mining Magnetite by Steam Shovel in Sweden.*—Iron Tr. Rev., Nov. 27, 1913; p 953; 5000 w*; 25c.

Rice, Claude T.—*The Newer Developments at Butte Mines.*—Mg. & Eng. World, July 19, 1913; p 99; 5700 w*; 10c.

Rice, S.—*The Use of Electric Power in Mining Operations.*—Iron Trade Rev., Sept. 25, 1913; p 545; 4300 w*; 25c.

Rosenblatt, G. B. — *Automatic Mine Hoisting.*—M. & S. P., June 14, 1913; p 897; 1300 w*; 20c.

Scholtze, G.—*Mechanische Schachtbedienung.* [Mechanical shaft service. A number of different cage-loading devices].—Kohle & Erz, Sept. 1, 1913; p 901; 3000 w*; 35c.

Schorrig, Ernst.—*Die Verwendung tragbarer electrischer Lampen im Bergwerksbetriebe, unter besonderer Berücksichtigung des Kalibergbaues.* [The use of portable electric lamps in mining with special reference to potash mining].—Kali, Nov. 1, 1913; p 537; 4000 w*; Nov. 13; p 753; 1000 w; Oct. 1, 1913; p 484; 3500 w*; $1.05.

Schultze, Karl. — *Die Wirtschaftlichkeit des Maschinenbetriebes einer oberschlesischen Steinkohlengrube.* [The economy of the power-equipment operation of an Upper Silesian coal mine].—Glückauf, Oct. 25, 1913; p 1757; 6000 w*; 50c. Nov. 1; p 1797; 5200 w*; Nov. 1; p 1841; 4200 w*; $1.50.

Schulz, W. —Elektrohängebahnen; [Electric suspended tramways]. — Technische Blätter, June 21, 1913; p 193; 2200 w*; June 28, 1913; p 201; 1800 w*; July 5; p 209; 1600 w*; July 12; p 217; 2000 w*; $1.40.

Schulze-Höing, Bergassessor.—*Die Akkumulatoren Grubenlokomotiven.* [Accumalator mine locomotives]. — Technische

Blätter, Aug. 31, 1913; p 290; 1600 w*; 35c.

Scott, E. Kilburn.—*Electric Cables for Shafts of Mines.*—Mg. Engg., June, 1913; p 104; 3500 w*; July, 1913; p 136; 2500 w*; 70c.

Shearer, D. R.—*Electric Control for Conveyer Belts.*—Power, June 17, 1913; p 857; 800 w*; 20c.

Simmons, Jesse.—*Mining and Milling in the Black Hills, S. D.*—Mg. & Eng. World, Aug. 9, 1913; p 255; 1200 w; 10c.

Webb, H. S.—*Electricity in Coal Mines.* Coll'y Engr., July, 1913; p 715; 2500 w*; Aug., 1913; p 47; 1600 w*; Sept., 1913; p 116; 1700 w*; $1.05.

Welhaven, Alf.—*Work of the Oriental Consolidated Mines, Korea.*—M. & S. P., Nov. 29, 1913; p 857; 2000 w*; 20c.

Welbourn, Burkewood.—*Insulated and Rare Copper and Aluminum Cables for the Transmission of Electrical Energy, with Special Reference to Mining Work.* (Abstract of paper read before Inst. of Mg. Engrs., London).—I. & C. Tr. Rev., June 6, 1913; p 916; 7000 w*; 35c.

Wintermeyer, Dipl.-Ing.—*Die wichtigsten Systeme elektrische betriebener Fördermaschinen.* [The most important system of electrically driven hoisting machines].—Bergbau, Sept. 25, 1913; p 641; 2700 w*; 35c.

———. *A New Mining Lamp* ["Bulldog" electric].—Coal Age, June 20, 1913; p 964; 500 w*; 20c.

———. *Anaconda Air-Compressor Plant at Butte, Mont.*—Mg. & Eng. World, June 28, 1913; p 1236; 325 w; 10c.

———. *Cars for Underground Electric Haulage.*—E. & M. J., July 26, 1913; p 161; 400 w*; 25c.

———. *Coal Mines Operated Under Direction of U. S. Bureau of Mines.*—Mg. & Eng. World, June 21, 1913; p 1195; 2000 w; 10c.

———. *Electric Welding.*—E. & M. J., July 26, 1913; p 162; 500 w*; 25c.

——— *Electric Winding Engines.*—Colly. Guard., London, Nov. 21, 1913; p 1047; 3800 w*; 35c.

——— *Electrical Plant at the New Markham Pits, Great Britain.*—Iron & Coal Tr. Rev., Oct. 31, 1913; p 681; 2000 w*; 35c.

———. *Electricity in Zinc Mining.* [Illinois-Missouri Fields].—El. Rev. & W. Elect., July 19, 1913; p 111; 7000 w*; 25c.

——— *L'Aluminium Français à l'Exposition de Gand.* [French aluminum at the Gand Exposition].—Jnl. du Four Electriq., Sept. 1, 1913; p 368; 1400 w; 35c.

——— *La Telefonia sin Alambres en las Minas.* [The wireless telephone in mines] (Abstract from L'Industrie Electrique).—Madrid Cientifico, June 25, 1913; p 345; 200 w; 35c. Also in Revue Industrielle, July 5, 1913; p 10; 35c.

——— *Mine Signaling at the Butte Copper Mines.*—Mg. & Eng. World, Oct. 25, 1913; p 749; 1750 w; 10c.

———. *Mining Clay with Electricity.*—Excav. Engr., Aug., 1913; p 407; 2000 w*; 20c.

——— *Rand Mines Steam and Electric Winding.*—Austr. Mg. Stand., July 17, 1913; p 44; 1200 w; 35c.

——— *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

———. *Safety Rules—Electrical Haulage Underground.* (From Inland Steel Co.'s Book of Rules.).—E. & M. J., Aug. 16, 1913; 650 w; 25c.

———. *The Use of Portable Electric Lamps in Mine Work.*—Mg. & Eng. World, July 19, 1913; p 108; 750 w; 10c.

——— *Unfälle in elektrischen Betrieben auf den Bergwerken Preussens im Jahre* 1912. [Electrical accidents in Prussian mines in 1912].—Zts. Berg., Hütten & Salinenw., Vol. 61, Part 3, 1913; p 321; 16,000 w*; $1.50.

In Mills

Aikens, Warren.—*Motor Drive at Zinc Mines and Mills.*—Mg. & Eng. World, Oct. 25, 1913; p 731; 2000 w*; 10c.

Crawford, John, Jr.,—*Electric Smelting as Conducted at Heroult, California.* (Abstract of address delivered before Mining Congress of Northern California and Southern Oregon).—M. & S. P., June 28, 1913; p 897; 4500 w; 20c.

Edwards, Geo. E.—*Care of Induction Motors at Mines and Mills.*—Mg. & Eng. World, Oct. 18, 1913; p 689; 3000 w*; 10c.

Hanson, H. J.—*Smelting Iron Electrically with Coke as Fuel.* [Norway].—Iron Tr. Rev., Dec. 4, 1913; p 1003; 2500 w*; 25c.

Johnson, Woolsey McA.—*Byproducts in Electric Zinc Smelting.*—E. & M. J., Dec. 20, 1913; p 1157; 3000 w*; 25c.

Johnson, Woolsey McA.—*The Johnson Electric Zinc-Smelting Process.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1073; 3200 w; 10c.

Johnson, Woolsey McA.—*Zinc Smelting in the Electric Furnace.*—E. & M. J., Nov. 22, 1913; p 965; 2400 w*; 25c.

Johnson, Woolsey McA., and Sieger, George N.—*Electric Furnaces, Their Design, Characteristics and Commercial Application.*—Met. & Chem. Engg., Sept., 1913; p 504; 3500 w; Oct., 1913; p 563; 4500 w*; Nov., 1913; p 643; 6000 w*. Met. & Chem. Engg., Dec., 1913; p 863; 4000 w*; $1.40.

Keeney, Robert M.—*Operating Characteristics and Development of Electric Steel Furnaces.*—Colo. Sch. of Mines Mag., May, 1913; p 99; pp 4; 35c.

Macgregor, Frank S.—*Progress in Electrostatic Ore Dressing.* (Abstract of paper read before 24th annual meeting Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1071; 1900 w; 10c.

Meuskens, Clemens.—*Die neuere Entwickelung der elektromagnetischen und elektrostatischen Erz-Aufbereitung.* [The recent development of electro-magnetic and electro-static ore preparation].—Technische Blätter, Aug. 2, 1913; p 241; 2200 w; Aug. 9; p 249; 2500 w*; Aug. 23; p 265; 2200 w*; Sept. 7, 1913; p 341; 3200 w*; Sept. 20, 1913; p 357; 1100 w*; Sept. 27; p 365; 1900 w*; Oct. 4; p 375; 1500 w*; Oct. 18, 1913; p 389; 1500 w*; Oct. 25, 1913; p 397; 1100 w*; Nov. 8; p 413; 1300 w*; $3.50.

Miller, John F.—*The Electrolytic Refinery at Trail, B. C.* (Abstract of paper read before Western Branch Can. Mg. Inst.).—Mg. & Eng. World, July 12, 1913; p 57; 2500 w*; 10c.

Nason, S. L.—*Witherbee-Sherman No. 3 Magnetic Mill* (New York).—E. & M. J., Nov. 22, 1913; p 959; 1000 w*; 25c.

Oesterreich, M.—*The Helfenstein Large Electric Furnaces.* (Abstract from Stahl und Eisen, Feb. 20, 1913).—Iron Age, June 19, 1913; p 1482; 2800 w*; 30c.

Orten-Boving, Jens.—*Electric Iron Smelting.*—Canadian Engr., Dec. 18, 1913; p 877; 3800 w; 35c.

Peterson, Peter R.—*The Electric Furnace for Zinc Smelting.*—Mg. & Eng. World, Aug. 16, 1913; p 303; 1500 w; Sept. 27, 1913; p 549; 2300 w*; 20c.

Peterson, Peter E.—*The Electric Zinc Furnace.* (Paper read before Am. Electrochem. Soc.).—Chem. Engr., Sept., 1913; p 100; 7000 w*; 35c.

Vom Baur, C. H.—*New Electric Furnace of the Induction Type.*—Iron Age, Sept. 18, 1913; p 612; 1500 w*; 30c.

Wilfley, C. R.—*Electrostatic Separation of Barstow Concentrate, Colo.*—E. & M. J., Aug. 9, 1913; p 249; 550 w*; 25c.

——— *Die electromagnetische Aufbereitung mit besonderer Berücksichtigung des Erzscheiders Bauart Ullrich.* [The electromagnetic preparation of ores with special reference to the Ullrich separator].—Montanistische Rundschau, Nov. 1, 1913; p 1043; 900 w*; 35c.

——— *Electric Iron Smelting at Hardanger.*—Mg. Jnl., London, Sept. 6, 1913; p 863; 2800 w; Sept. 13, 1913; p 885; 2700 w; 70c.

———. *Elektromagnetische Aufbereitung.* [Electro-magnetic preparation of ores].—Montanistische Rundschau, July 1, 1913; p 629; 1200 w*; 35c.

——— *Foundry Pig Iron Smelted in Electric Furnaces.*—Ir. Tr. Rev., Sept. 18, 1913; p 493; 4500 w*; 25c.

———. *The Electric Smelting of Tin.*—S. Af. Mg. Jnl., June 7, 1913; p 386; 2000 w; June 14, 1913; p 405; 1200 w; 70c.

General

Baskerville, Charles.—*The Chemistry of Tungsten, and the Evolution of the Tungsten Lamp.*—Trans. N. Y. Electrical Soc., New Series, 1912, No. 1; 25 pp; 60c.

Bennett, C. W., and Gilbert, H. N.—*Some Tests of the Edison Storage Battery.*—Trans. Am. Electrochem. Soc., Vol. 23, 1913; 7000 w*.

Blau, Ernst.—*Die Leonard-Schaltung und ihre Andwendungen.* [The Leonard control and its applications].—Kohle & Erz, Aug. 18, 1913; p 818; 1400 w; 35c.

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpt from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Edwards, Geo. E.—*Electric Power from Fuels at Mines.*—Mg. & Eng. World, Nov. 15, 1913; p 870; 3200 w*; 10c.

Gradenwitz, Alfred.—*A Modern Distribution and Storage Plant.*—Coal Age, Sept. 13, 1913: p 378; 1800 w*; 20c.

Hadley, A. E.—*Sale of Power on the Rand* (Excerpts from paper presented before Inst. Elect. Engrs., London).—E. & M. J., July 19, 1913; p 106; 1500 w*; 25c.

Hagood, Lee.—*Operation of Transmission Lines.*—Trans. Am. Inst. Elec. Engrs., Dec., 1913; p 2163; 27 pp*; $1.15.

Hall, Clarence, and Howell, Spencer P.—*Investigations of Detonators and Electric Detonators.*—Washington, D. C.; Bull. 59, U. S. Bureau of Mines; 73 pp*.

Heym, Ingenieur.—*Die Gefahren der elektrischen Energie.* [The dangers of electrical energy].—Kali, Erz & Kohle, Sept. 15, 1913; p 915; 1200 w; 35c.

Heym, Ingenieur.—*Die Kraftmaschinen in der amerikanischen Stahlindustrie.* [The power machinery in the American steel industry].—Kali, Erz & Kohle, Oct. 5, 1913; p 1001; 2000 w; Oct. 15; p 1037; 2300 w; Oct. 25; p 1077; 1600 w; Nov. 25, 1913; p 1179; 2200 w; Dec. 5, 1913; p 1215; 2500 w; Dec. 15; p 1252; 1000 w; $2.10.

Hornaday, W. D.—*Hydro-Electric Power in Mexico.*—Mg. & Eng. World, Nov. 1, 1913; p 77; 3000 w*; 10c.

Jenks, J. S.—*Central Power Station for Mines.* (Paper read before Pittsburgh meeting Am. Inst. Elec. Engrs.; abstract).—Coal Tr. Bull., June 2, 1913; 2300 w; 25c.

Kneeland, Frank H.—*A Mammoth Central-Power Plant.*—Coal Age, Dec. 6, 1913; p 846; 1200 w*; 20c.

Leeson, C. G.—*The Camanche Dredge, California.*—M. & S. P., Dec. 13, 1913; p 933; 1000 w*; 20c.

Leimbach, Gotthelf.—*Die Erforschung des Erdinnern mittels elektrischer Wellen und Schwingungen.* [The investigation of the earth's interior by means of electrical waves and oscillations] (Address before Twelfth General German Mg. Congress in Breslau).—Kali, Erz & Kohle, Nov. 5, 1913; p 1107; 2200 w; 35c.

Leimbach, Gotthelf.—*Ueber die Anwendung elektrischer Schwingungen (drahtloser Telegraphie) zur Erforschung des Erdinnern, besonders im Kalibergbau.* [On the use of electric waves (wireless telegraphy) for the investigation of the earth's interior, especially in potash mining].—Kali, Sept. 1, 1913; p 433; 5500 w*; 35c.

Le Roy, E.—*An Electric Time Fuse.*—M. & S. P., Dec. 20, 1913; p 972; 750 w*; 20c.

Lof, E. A.—*Commercial Opportunities for the Use of Water Power.*—Engg. Mag., July 1. 1913; p 506; 6 pp; 35c.

Louvrier, Francis.—*A New Type of Electrical Furnace for the Reduction of Ores.*—Met. & Chem. Engg., Dec., 1913; p 710; 4300 w*; 35c.

Lyon, Dorsey A., and Keeney, R. M.—*The Electric Furnace in Western Metallurgy.* (Abstract of paper read before Am. Electrochem. Soc.).—Mg. & Eng. World, Dec. 13, 1913; p 1063; 5000 w; 10c.

Parma, Al.—*Ueber die Wahl und Oekonomie der Kraftmaschinen.* [On the choice and economy of power generators].—Kohleninteressent, May 15, 1913; p 121; 1400 w*; June 15; p 149; 1800 w*; July 1; p 164; 2100 w; $1.05.

Ripley, J. P.—*Graphical Chart of Power Costs.*—El. Rev. & West. Elect., Nov. 29, 1913; p 1058; 1500 w*; 20c.

Rodenhauser, W., and Schoenawa, I.—*Electric Furnaces in the Iron and Steel Industry.* 417 pp. $3.50 (book).

Still, Alfred.—*Steel Towers for Overhead Transmission Lines.*—Jnl. Elec., P. & G., June 14, 1913; p 544; 4000 w*; 35c.

Thornton, W. M.—*The Comparative Inflammability of Mixtures of Pit Gas and Air by Momentary Electric Arcs.* (Abstract of paper presented at N. of England Inst. Mg. & Mech. Engrs.).—Ir. & C. Tr. Rev., London, Aug. 8, 1913; p 194; 3000 w*; 35c.

Tupper, C. A.—*Machines for Continuous Current.*—Coal Age., Nov. 15, 1913; p 735; 3100 w*; Nov. 22, 1913; p 771; 2000 w*; 40c.

Tupper, C. A.—*Proper Installation of Alternators.*—Coal Age, July 26, 1913; p 129; 3300 w; 20c.

Tupper, C. A.—*The Application and Care of Induction Motors.*—Ir. Tr. Rev., Aug. 21, 1913; p 333; 2800 w; 25c.

Van Norden, Rudolph, W.—*The System of Southern Sierras Power Co.*—Jnl. Elec. P. & G., July 5, 1913; p 1; 20 pp*; July 12, 1913; p 33; 16 pp*; 70c.

Wade, R. E.—*The Electrification of the Butte, Anaconda & Pacific Railway.*—Trans. Am. Inst. Mg. Engrs., Bull. 83, Nov., 1913; p 2629; 6 pp*; 35c.

Walker, Sidney S.—*Notes on Electric Pumps.*—E. & M. J., Oct. 18, 1913; p 723; 600 w; 25c.

Walsh, A. M.—*Pumping at the Comstock, Nevada.*—M. & S. P., Aug. 23, 1913; p 305; 2000 w*; 20c.

———. *Earthing and Bonding.*—Sci. & Art of Mg., London, Nov. 22, 1913; p 169; 2000 w; 35c.

———. *Electrically-Driven Compressed-Air Plant.*—Coll'y Engr., Sept., 1913; p 94; 900 w*; 35c.

———. *Electrically-Operated Canadian Rolling Mill.*—Ir. Trade Rev., July 3, 1913; p 17; 2000 w*; 25c.

———. *Electrically-Operated Ore-Hauling Railroad at Butte.*—Mg. & Eng. World, June 14, 1913; p 1137; 2500 w*; 10c.

———. *Liquid Rheostats for Large Alternating-Current Motors.*—E. & M. J., July 12, 1913; p 80; 350 w*; 25c.

———. *Liquid Rheostats for Large Motors.*—Coal Age, June 21, 1913; p 954; 300 w*; 20c.

———. *Shaefer Method of Resuscitation; Prone Pressure Method of Resuscitation of Those Asphixiated or Who Have Received Electric Shocks.* (Contains abstract from "Resuscitation," by Charles A. Lauffer, M. D.).—Colliery Engr., Aug., 1913; p 53; 1000 w*; 35c.

———. *Transformers for Outdoor Service.*—Coal Age, Aug. 2, 1913; p 162; 2000 w*; 20c.

Hydro-Electric

Edwards, Geo. E.—*Season's Developments on the Lake Iron Ranges.*—Mg. & Eng. World, Nov. 8, 1913; p 825; 4000 w*; 10c.

Fisken, J. B.—*Electrical Applications in the Coeur d'Alenes* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 26, 1913; p 149; 3000 w*; 10c.

Hebgen, Max.—*Hydro-Electric Development in Montana.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Oct. 11, 1913; p 649; 4500 w*; 10c.

Henshaw, Fred F.—*The Development of Oregon's Water Resources.* (Paper read before Oregon Soc. Engrs.).—Jnl. El., P. & G., June 28, 1913; p 601; 6500 w; 35c.

Hornaday, W. D.—*Hydro-Electric Power in Mexico.*—Mg. & Eng. World, Nov. 1, 1913; p 777; 3000 w*; 10c.

Lof, E. A.—*The Generation and Transmission of Hydroelectric Power.* (Sixth article).—Engg. Mag., June, 1913; p 372; pp 12*; 35c.

Rogers, Warren O.—*A Hydro-Electric Plant to Supply Coal Mines* (From article in Power).—Coal Age, July 5, 1913; p 2; 2300 w*; 20c.

Schreiber, Hermann V.—*The Design and Construction of the Hydro-electric Plant at Estacada, Oregon.* (Abstract of paper presented at the Natl. Assn. of Cement Users).—Jnl. of the Engrs.' Club, Philadelphia, Oct., 1913; p 359; 14 pp*; 65c.

Tait, P. G.—*The Magnet Silver-Lead Mine, Tasmania* (Abstract from Mg. & Eng. Rev.).—M. & S. P., July 19, 1913; p 102; 1200 w; 20c.

Thompson, Jared.—*Distributing Power to British Columbia Mines.*—Mg. & Eng. World, Aug. 9, 1913; p 249; 1200 w*; 10c.

Thompson, Jared.—*Hydro-Electric Power for British Columbia Mines.*—Mg. & Eng. World, July 5, 1913; p 3; 2000 w*; 10c.

Tupper, C. A.—*Pressure Regulation for Hydro-Electric Plants.*—Mg. & Eng. World, June 25, 1913; p 1185; 4000 w*; 10c.

Van Norden, Rudolph W.—*The System of Southern Sierras Power Co.*—Jnl. Elec. P. & G., July 5, 1913; p 1; 20 pp*; 35c.

———. *Hydro-Electric Power in California* (Editorial).—Mg. & Eng. World, July 26, 1913; p 142; 300 w; 10c.

———. *Hydro-Electric Systems.* (Excerpts from report of committee on the "Operation of Water-Power Systems" of the Natl. Elec. Light Assn.).—Power, June 24, 1913; p 894; 2700 w; 20c.

———. *The Treadwell Group of Mines, Alaska, in* 1912. (Abstract of annual report).—See under gold.

COMPRESSED AIR

Aikens, Warren.—*Electric Power for Missouri-Kansas Zinc Mines.*—Mg. & Eng. World, Aug. 16, 1913; p 295; 1000 w*; 10c.

Bedford, Robert H., and Hague, William.—*Rock-Drill Testing at the North Star, Cal.*—M. & S. P., Aug. 2, 1913; p 179; 2000 w*; 20c.

Beneke, Karl.—*Neuere Bergwerks-Kolbenkompressoren.* [Recent mining piston compressors].—Technische Blätter, Oct. 4, 1913; p 373; 1500 w*; Nov. 1, 1913; p 405; 1300 w*; 70c.

Butow and Dobblestein. — *Compressed-Air Pit Locomotives;* [Gives results of tests with compressed-air locomotives for colliery haulage]. (Abstracted from Glückauf).—Ir. & C. Tr. Rev., May 30, 1913; p 888; 2000 w; 35c.

Denny, G. A.—*Comparative Efficiencies in Use of Compressed Air.* (Trans. Mex. Inst. Mg. & Met.; abstract).—M. & M., May, 1913; p 209; 3000 w; 20c.

Eckler.—*Luftcompressoren und die Anwendung der Druckluft in Giessereibetrieben;* [Air compressors and blast in foun- 435; 600 w*; 35c.

Ennis, William D.—*Leakage in Compressed-Air Lines.*—Pr. Engr., Sept. 15, 1913; 2600 w*; 25c.

Formis, Andre.—*Measuring Air Consumption.*—Comp. Air Mag., Aug., 1913; p 6926; 1000 w*; 20c.

Formis, Andre.—*Time Studies and Air Consumption.*—E. & M. J., June 14, 1913; p 1183; 1800 w*; 25c.

Gillie, John.—*Use of Electricity in Mining in the Butte District.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Nov. 22, 1913; p 926; 1300 w; 10c.

Hadley, A. E.—*Sale of Power on the Rand.* (Exerpts from paper presented before Inst. Elect. Engrs., London).—E. & M. J., July 19, 1913; p 106; 1500 w*; 25c.

Heym, Ingenieur.—*Die Kraftmaschinen in der amerikanischen Stahlindustrie.* [The power machinery in the American steel industry].—Kali, Erz & Kohle, Oct. 5, 1913;

p 1001; 2000 w; Oct. 15; p 1037; 2300 w; Oct. 25; p 1077; 1600 w; Nov. 25, 1913; p 1179; 2200 w; $1.40.

Howard, R. S.—*The Actual Value of Intercooling in Air Compression.*—Comp. Air Mag., July, 1913; p 6888; 2000 w*; 20c.

Kellogg, L. O.—*The Magnetite Mines Near Port Henry, N. Y.*—E. & M. J., Nov. 8, 1913; p 863; 4000 w*; 25c.

Kneeland, Frank H.—*A Modern Compressor Plant.*—Coal Age, Sept. 6, 1913; p 345; 2000 w*; 20c.

Liwehr, August Eugen.—*Die Hilfsapparatus des bergbaulichen Pressluftbetriebes.* [The auxiliary apparatus in the use of compressed air in mining].—Zts. Zentral-Verbd. Bergbau Betriebsl., Aug. 15, 1913. p 479; 3200 w*; Sept. 1, 1913; p 525; 5000 w*; 70c.

May, Walter J.—*Measuring Air Discharge of Compressors.*—Mech. Wld., London, June 27, 1913; p 304; 1500 w*; 35c.

Nordberg, Bruno.—*The Compressed Air System of the Anaconda Copper Mining Co.*—Bull. 81, Am. Inst. Mg. Engrs., Sept., 1913; p 2225; 75 pp*; 35c. Mg. & Eng. World, Nov. 15, 1913; p 881; 3200 w; 10c.

Parma, Al.—*Ueber die Wahl und Oekonomie der Kraftmachinen;* [On the selection and economy of power machinery] (continuation).—Kohleninteressent, June 1, 1913; p 135; 2500 w*; 35c.

Patchell, W. H.—*Application of Electric Power to Mines and Heavy Industries.*—New York, D. Van Nostrand Co.; 333 pp*; $4 (book).

Price, William Z.—*Compressed-Air Mine Haulage.*—Colly. Engr., Oct., 1913; p 142; 3000 w*; 35c.

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 23, 1913; p 327; 4000 w*; 10c.

Richards, Frank.—*Compressed Air Practice.* 326 pp. $3 (book).

Schöttler, R.—*Regeln für Leistungsversuche an Ventilatoren und Kompressoren.* [Rules for capacity investigttions of ventilators and compressors].—Fördertechnik, Aug., 1913; p 177; 2200 w*; 65c.

Spalding, C. M.—*Displacement vs. Delivery of Air Compressors.* (Abstracted from General Electric Rev.).—Comp. Air Mag., Dec., 1913; p 7055; 3000 w; 20c.

Streeter, Robert L.—*Air Compressors and Compressed-Air Machinery.*—Engg. Mag., Oct., 1913; p 19; 18 pp*; 35c.

Streeter, Robert L.—*Large Steam-Driven Air Compressors.*—Engg. Mag., Nov., 1913; p 177; 16 pp*; 35c.

Streeter, Robert L.—*Compressors for High Pressure.*—Engg. Mag., Dec., 1913; p 381; 19 pp*; 35c.

Thorkelson, H. J.—*Air Compression and Transmission.* 207 pp. $2 (book).

Van Ells, H. T.—*Mining Cost Account of Anaconda Co.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 252; 2600 w; 10c.

Wallichs, A.—*Die Erzeugung der Druckluft und ihre Verwendung in Fabrikbetrieben.* [The production of compressed air and its applications in manufacturing].—Fördertechnik., Nov., 1913; p 249; 2500 w*; 65c.

———. *Anaconda Air-Compressor Plant at Butte, Mont.*—Mg. & Eng. World, June 28, 1913; p 1236; 325 w; 10c.

——— *Electrically-Driven Compressed-Air Plant.*—Coll'y Engr., Sept., 1913; p 94; 900 w*; 35c.

COMBUSTION ENGINES

Allen, Irving C.—*Heavy Oil as Fuel for Internal Combustion Engines.*—Jnl. Elec., P. & G., July 26, 1913; p 88; 2800 w; 35c.

Anglada, Joseph A.—*Removing Carbon from Gas Engines.* (Paper read before Natl. Gas Engine Assn.; abstract).—Iron Age, Sept. 18, 1913; p 616; 2000 w; 30c.

Ballin, A. E.—*New Heavy-Oil Engine.*—Power, Aug. 12, 1913; p 229; 2000 w*; 20c.

Fernald, R. H.—*The Commercial Trend of the Producer-Gas Power Plant in the United States.*—Bull. 55, U. S. Bureau of Mines; 93 pp*.

Field, G. A.—*Pressures in Gasoline Engines.*—Power, July 8, 1913; p 56; 750 w*; 20c.

Freyn, Heinrich J.—*The Gas Engine in Modern Blast-Furnace and Steel Plants.* (Abstract of paper read before Am. Ir. & St. Inst.).—I. & C. Tr. Rev., June 27, 1913; p 1047; 4500 w; 35c.

Heym, Ingenieur.—*Die Kraftmaschinen in der amerikanischen Stahlindustrie.* [The power machinery in the American steel industry].—Kali, Erz & Kohle, Oct. 5, 1913; p 1001; 2000 w; Oct. 15; p 1037; 2300 w; Oct. 25; p 1077; 1600 w; $1.05.

Hodges, R. O.—*Gasoline Motors in Coal Mines.* (Abstract of paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., July 3, 1913; p 207; 7500 w; 20c.

Hopkinson, Bertram.—*A New Method of Cooling Gas Engines.* (Paper read at Cambridge Meeting Inst. Mech. Engrs.).—Iron & Coal Tr. Rev., Aug. 1, 1913; p 154; 5000 w*; 35c. Colly. Guard., Aug. 1, 1913; 2000 w*; 35c. Iron Age, Aug. 21, 1913; p 392; 2700 w*; 30c.

King, A. F.—*Use of Gasoline Motors in Coal Mines.* (Paper read before W. Va. Coal Mg. Inst.; abstract).—M. & S. P., Sept. 20, 1913; p 463; 1500 w; 20c.

Koneczny, Franz.—*Allgemeine Betrachtungen über neuzaitige Maschinenanlagen des Bergbaues.* [General observations on recent power plants for mines].—Montanist. Rundschau, July 16, 1913; p 669; 2000 w; 35c.

Kribs, Gordon.—*The Cost of Generating Power with Diesel Oil Engines.*—Canadian Engr., July 10, 1913; p 133; 2500 w; 35c.

Langer, P.—*The Large Gas Engine in Europe.*—Power, Dec. 23, 1913; p 891; 5800 w*; 20c.

Leroux, E. P.—*Les Locomotives avec Moteur a Benzine a Cylindres Multiples.* [Locomotives with multiple-cylinder benzine motors].—Revue Noire, May 11, 1913; p 260; 700 w*; June 1; p 304; 1500 w*; 70c.

Lent, L. B.—*Comparative Cost of Gas and Steam Plants.*—Power, Sept. 9, 1913; p 365; 2500 w; 20c.

Muller, Max H.—*Cylinder Heads of Horizontal Single-Acting Motors.* (Translation from "Der Oelmotor").—Power, June 17, 1913; p 859; 1600 w*; 20c.

Sampson, Charles C.—*Operation of Gas Engines Using Blast-Furnace Gas.* (Trans. Am. Soc. Mech. Engrs.; abstract).—Power, June 10, 1913; p 821; 2700 w*; 20c. Engg. Rev., London, June 16, 1913; p 461; 6000 w; 35c.

Scholz, Carl.—*Gasoline Mine Locomotives in Coal Mining.*—Colly. Engr., Oct., 1913; p 153; 1800 w*; 35c.

Shaw, R. H.—*Design for an Air Lift for*

Elevating Pulp in Cyanide Plants.—Mg. & Eng. World, Nov. 29, 1913; p 966; 100 w*; 10c.

Strong, R. M., and Stone, L.—*Tests of Gasoline and Denatured Alcohol as Fuels for Engines.* (Abstract from Bull. 43, U. S. Bur. Mines).—Mg. & Eng. World, Dec. 27, 1913; p 1154; 700 w; 10c.

Trautschold, Reginald. — *Jacket Water Temperatures and Fuel Consumption in Internal Combustion Engines.*—Can. Engr., June 19, 1913; p 871; 2000 w*; 35c.

Tyssowski, John.—*Internal Combustion Mine Locomotives.*—E. & M. J., Aug. 23, 1913; 3500 w*; 25c.

Ventou-Duclaux, L. — *Emploi de la Naphtaline dans les Moteurs à Explosion.* [The use of naphthaline in explosion motors].—Revue Pratique Ind'e Metlgq., July, 1913; p 2; 1200 w*; 40c.

White, F. M. and E. A.—*Tests on Small Gasoline Engines.*—Power, Aug. 26, 1913; p 299; 3500 w*; 20c.

———. *Gasoline Locomotives for Mine Use.*—E. & M. J., July 19, 1913; p 113; 800 w; 25c.

——— *How the Fulton-Tosi Oil Engine is Constructed.*—Iron Trade Rev., Dec. 25, 1913; p 1140; 1800 w*; 25c.

———. *Ore Haulage with Gasoline Engines at Trojan Mine, S. D.*—Mg. & Eng. World, Aug. 2, 1913; p 216; 500 w; 10c.

——— *Substantial Surface Air Pipe Line.*—E. & M. J., Nov. 29, 1913; p 1019; 500 w*; 25c.

STEAM AND STEAM ENGINES

Additon, A. Sydney.—*Under-Estimating the Cost of Milling Plants.*—M. & S. P., Aug. 16, 1913; p 263; 6500 w; 20c

Alkens, Warren.—*Electric Power for Missouri-Kansas Zinc Mines.*—Mg. & Eng. World, Aug. 16, 1913; p 295; 1000 w*; 10c.

Albert, Ottomar.—*Die Oekanamie bei der Erzeugung des Dampfes.* [Economy in the generation of steam].—Kohle & Erz, Aug. 11, 1913; p 795; 2000 w; 35c.

Alford, Newell G.—*A Central Power Station in West Kentucky.*—Coal Age, Nov. 8, 1913; p 698; 3800 w*; 20c.

Allen, R. C.—*Testing Small Steam Turbines.*—Power, June 10, 1913; p 808; 2600 w*; 20c.

Barker, Perry.—*Distribution of Heat in the Operation of Boilers.* (Paper read before Inst. Chem. Engrs.; abstract).—Bl. Diam., July 26, 1913; p 18; 3200 w; 25c. Power, Sept. 16, 1913; p 390; 2200 w; 20c. Jnl. Ind. & Engg. Chem., Aug., 1913; p 670; 4000 w; 65c.

Bement, A.—*Analyzing Boiler Tests.*—Power, June 24, 1913; p 912; 1000 w*; 20c.

Brady, F. W.—*Long-Distance Transmission.*—Coal Age, Dec. 20, 1913; p 939; 1600 w*; 20c.

Carpenter, H. V.—*The Flow of Steam Through Pipes.*—Power, June 10, 1913; p 816; 650 w, with chart; 20c.

Carpenter, R. C.—*The Use of Pulverized Coal as a Fuel for Boilers.*—Sibley Jnl. Engg., Dec., 1913; p 85; 9 pp*; 35c.

Coulston, P. Barrett.—*Should Exhaust Steam Be Wasted? Examples of Installations of Steam Turbines to Utilize Power Ordinarily Wasted in Exhaust.* (From Trans. Manchester Geol. & Mg. Soc.).—Colliery Engr., Aug., 1913; p 41; 2000 w; 35c.

Cutler, H. C.—*Wolf Locomobiles at Buckhorn Mine, Nevada.*—E. & M. J., Dec. 27, 1913; p 1228; 900 w; 25c.

Dunlap, Albert N.—*Boiler Troubles and Prevention.* (Paper read before Nat. Assn. Steam Engrs.).—Mex. Mg. Jnl., Oct., 1913; p 475; 3200 w; 25c.

Easton, W. H.—*Electricity vs. Steam for Winches.*—Coal Age, Dec. 27, 1913; p 976; 700 w*; 20c.

Foster, D. E.—*The Flow of Steam in Pipes.*—Wis. Engr., Nov., 1913; p 49; 600 w*; 30c.

Gibson, Geo. H.—*Connecting Small Turbines in Steam Power Plants and Exhaust Steam Heating and Drying Systems.*—C. & C. Opr., July 31, 1913; p 309; 500 w*; 25c. Colliery Engr., Aug., 1913; p 60; 1200 w*; 35c.

Gibson, Geo. H.—*Improved Methods of Connecting Small Turbines in Steam Power Plants.*—Sibley Jnl. of Engg., Nov., 1913; p 57; 11 pp*; 35c.

Gibson, J. E., and Wright, S. H.—*Gas Engines vs. Steam for Pumping.* (Abstract of paper read before Engineers' Club, Philadelphia).—Power, Dec. 2, 1913; p 788; 1400 w; 20c.

Gibson, J. E., and Wright, S. H.—*Suction Gas Producer Pumping Engine vs. Compound Condensing Corliss Crank and Fly Wheel Pumping Engine.*—Proceedings Engrs.' Club, Philadelphia, Oct., 1913; p 371; 24 pp*; 65c.

Gordon, J. M.—*Exhaust Steam and Its Utilization at Collieries and Mines.* (Abstract of paper read before Canadian Mg. Inst.).—Mech. Wld., London, June 27, 1913; p 309; 3000 w*; 35c.

Hanmer, L. G.—*Mixed-Pressure Steam Turbine.*—Power, July 1, 1913; p 6; 2600 w; 20c.

Heck, R. C. H.—*Duchesne's Experiments on Superheat.*—Power, July 22, 1913; p 117; 4500 w*; 20c.

Herr, H. T.—*Recent Developments in Steam Turbines.*—Jnl. Franklin Inst., June, 1913; p 627; pp 22*; 65c.

Heym, Ingenieur.—*Die Kraftmaschinen in der amerikanischen Stahlindustrie.* [The power machinery in the American steel industry].—Kali, Erz & Kohle, Oct. 5, 1913; p 1001; 2000 w; Oct. 15; p 1037; 2300 w; Oct. 25; p 1077; 1600 w; Nov. 25, 1913; p 1179; 2200 w; Dec. 5, 1913; p 1215; 2500 w; Dec. 15; p 1252; 1000 w; $2.10.

Huessener.—*Points on Gas-Fired Boilers.*—I. & C. Tr. Rev., London, June 13, 1913; p 966; 4000 w*; 35c.

Jaeger, H.—*Welding Steam Boilers.* (Abstract from Zeitchrift für Dampfkessel und Maschinenbetrieb).—Power, July 22, 1913; p 120; 1300 w*; 20c.

Koneczny, Franz.—*Allgemeine Betrachtungen über neuzaitige Maschinenanlagen des Bergbaues.* [General observations on recent power plants for mines].—Montanist. Rundschau, July 16, 1913; p 669; 2000 w: 35c

Kreisinger, Henry, and Ray, Walter T.—*Adaptation of Boiler to Available Coal.* (Paper read before West. Soc. Engrs.; 5000 w*; 20c. Bl. Diam., Aug. 9, 1913; p 18; 1500 w*; 25c. Jnl. West. Soc. Engrs., Nov., 1913; p 819; 62 pp*; 65c.

Lawrence, Willis.—*Engine-Cylinder Lubrication.*—Power, June 10, 1913; p 838; 2500 w*; 20c.

Lowe, B. J.—*Erecting an Engine Underground.*—Coal Age, June 21, 1913; p 955; 850 w*; 20c.

Marchal, Achille.—*Le Chargement Automatique de la Grille dans le Foyer des Chaudières.* [Automatic stoking of steam-boiler furnaces. The Seyboth stoker].—Fer et Acier, May, 1913; p 68; 2400 w*; 40c.

Moxey, John G.—*The Analysis of Boiler Losses.*—Power, Aug. 12, 1913; p 224; 3000 w*; 20c.

Parker, John C.—*Boiler-Efficiency Chart.*—Power, June 10, 1913; p 812; 600 w*, with chart; 20c.

Parma, Al.—*Ueber die Wahl und Oekonomie der Kraftmaschinen.* [On the choice and economy of power generators].—Kohleninteressent, May 15, 1913; p 121; 1400 w*; June 15; p 149; 1800 w*; July 1; p 164; 2100 w; $1.05.

Peter, F.—*The Generation of Steam by Waste Heat from Furnaces.*—Trans. Am. Inst. Mg. Engrs., Bull. 84; Dec., 1913; p 2775; 29 pp*; 35c.

Ravlin, F. J.—*Operating Boilers Under Difficulties*—Power, Sept. 9, 1913; p 352; 1000 w*; 20c.

Rice, A. S.—*Mining Magnetite by Steam Shovel in Sweden.*—Iron Tr. Rev., Nov. 27, 1913; p 953; 5000 w*; 25c.

Rice, S.—*Reducing Power-Plant Waste by Metering.*—Iron Trade Rev., Dec. 18, 1913; p 1106; 1600 w*; 35c.

Röder, K.—*Ueber Addampf und Zweidruckturbinen.* [On exhaust-steam and two-pressure turbines].—Elektrotechnik & Maschinenbau, June 22, 1913; p 536; 2800 w*; 50c.

Schultze, Karl.—*Die Wirtschaftlichkeit des Maschinenbetriebes einer oberschlesischen Steinkohlengrube.* [The economy of the power-equipment operation of an Upper Silesian coal mine].—Glückauf, Oct. 25, 1913; p 1757; 6000 w*; 50c. Nov. 1; p 1797; 5200 w*; Nov. 1; p 1841; 4200 w*; $1.50.

Scott, E. Kilburn.—*Large Prime Movers and Boilers for Power Houses.* (Paper read before Natl. Assn. of Colly. Mgrs.).—Iron & Coal Tr. Rev., London, Oct. 31, 1913; p 634; 7000 w*; 35c.

Sorensen, S. Severin.—*Waste Heat Boilers in Reverberatory Furnace Flues.*—M. & S. P., Oct. 11, 1913; p 575; 1800 w*; 20c.

Strauss, Jerome.—*Low-Pressure Steam Turbines.* (Abstract of paper awarded Stillman prize in Applied Technology, Stevens Inst. of Tech.).—Power, Aug. 12, 1913; p 220; 4500 w*; 20c.

Streeter, Robert L.—*Large Steam-Driven Air Compressors.*—Engg. Mag., Nov., 1913; p 177; 16 pp*; 35c.

Strohm, R. C.—*Mechanics of Coal Mining.*—Colly. Engr., Dec., 1913; p 307; 1600 w*; 35c.

Strohm, R. T.—*Oil Fuel for Steam Boilers.*—Mech. Wld., London, Nov. 21, 1913; p 243; 2400 w; 35c.

Thompson, Jared.—*Distributing Power to British Columbia Mines.*—Mg. & Eng. World, Aug. 9, 1913; p 249; 1200 w*; 10c.

Wakeman, W. H.—*Condensers for Steam Engines.*—Pr. El. & Engg., July, 1913; p 123; 1200 w; 25c

Wakeman, W. H.—*Frames for Steam Engines.*—Pr. Elec. & Engg., Sept., 1913; p 235; 3000 w*; 25c.

Williams, W. B.—*Boiler Scale and Its Removal.*—Br. & Cl. Rec., July 15, 1913; p 174; 1500 w*; 25c.

———. *Air in Surface Condensation.* (Abstract of paper read before Am. Soc. Mech. Engrs.).—Power, July 1, 1913; p 8; 3000 w*; 20c.

———. *Exhaust Steam at Scottish Collieries.*—Colly. Guard., July 4, 1913; p 13; 800 w*; 35c.

———. *Jacketing Applied to Steam Cylinders.*—Mech. Wld., London, June 20, 1913; p 291; 1500 w*; 35c.

——— *New Steam Shovel for Cleaning Up on the Mesabi Iron Range.*—E. & M. J., Dec. 20, 1913; p 1159; 900 w*; 25c.

——— *Rand Mines Steam and Electric Winding.*—Austr. Mg. Stand., July 17, 1913; p 44; 1200 w; 35c.

———. *The Buckeye-mobile.* (Abstract from Power).—E. & M. J., Nov. 15, 1913; p 913; 1100 w*; 25c.

——— *Untersuchungen von Bergwerksmaschinen.* [Investigations of mining machinery].—Glückauf. Aug. 23, 1913; p 1331; 2200 w*; 50c.

———. *Wärmeschutzmassen.* [Heat insulating materials].—Südwestdeutsche Industrie-ztg., May 10, 1913; p 281; 1500 w; 35c.

———. *Wastefulness at Power Plants* (From address before Am. Inst. Mg. Engrs.).—Coal Age, June 21, 1913; p 957; 500 w; 20c.

GAS PRODUCERS; PRODUCER GAS

Blauvelt, William Hutton.—*The Slagging Gas Producer.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2823; 6 pp; 35c.

Bromley, C. H.—*Hints on Gas-Producer Operations.* (Lecture delivered before Newark, N. J., No. 3, N. A. S. E.; abstract).—Power, July 8, 1913; p 57; 1300 w; 20c.

Coates, Matthew C.—*Power Gas Producers.*—Aus. Mg. Stand., Nov. 13, 1913; p 440; 4000 w*; 35c.

Fernald, R. H.—*The Commercial Trend of the Producer-Gas Power Plant in the United States.*—Bull. 55, U. S. Bureau of Mines; 93 pp*.

Garland, C. M.—*A System of Burning Producing Gas.*—Iron Age, Sept. 25, 1913; p 664; 2800 w*; 30c.

Gibson, J. E., and Wright, S. H.—*Gas Engines vs. Steam for Pumping.* (Abstract of paper read before Engineers' Club, Philadelphia).—Power, Dec. 2, 1913; p 788; 1400 w; 20c.

Gibson, J. E., and Wright, S. H.—*Suction Gas Producer Pumping Engine vs. Compound Condensing Corliss Crank and Fly Wheel Pumping Engine.*—Proceedings Engrs.' Club, Philadelphia, Oct., 1913; p 371; 24 pp*; 65c.

Gwosdz, Dipl. Ing.—*Ein neuer Gaserzeuger mit Gewinnung der Nebenprodukte.* [A new by-product gas producer].—Glückauf, June 21, 1913; p 980; 1700 w*; 50c.

Hopkinson, Bertram.—*A New Method of Cooling Gas Engines.* (Paper read before Inst. Mech. Engrs.; abstract).—Jnl. Royal Soc. Arts, Aug. 8, 1913; p 867; 7 pp; 50c.

Lent, L. B.—*Comparative Cost of Gas and Steam Plants.*—Power, Sept. 9, 1913; p 365; 2500 w; 20c.

Loring, W. J.—*Power on Mines.* [Notes on production of gas from wood, cost items].—Mg. Mag., Oct., 1913; p 278; 1600 w; 35c.

Mendheim, A.—*Ueber die Entwickelung der Gasöfen zum Brennen von Kalk;* [On

the evolution of the gas furnace for burning lime].—Tonindustrie-Ztg., June 14, 1913; p 908; 3400 w*; 35c.

Muench, G. W.—*Gas-Producer Chemistry.*—Power, Sept. 23, 1913; p 433; 1600 w*; 20c.

Muench, G. W.—*Lignite as a Fuel for Gas Producers.*—Power, Sept. 9, 1913; p 366; 2600 w; 20c.

Muench, George W.—*Lignite Suction-Producer Troubles.*—Power, July 15, 1913; p 91; 1900 w; 20c.

Schmatolla, E.—*A Simple Gas-Producer.*—Brick & Clay Record, Dec. 16, 1913; p 1253; 2500 w*; 30c.

Seager, James A.—*A New Byproduct Recovery Producer.*—Power, Aug. 19, 1913; p 266; 1300 w*; 20c.

Smallwood, Julian C.—*Heat Balance of a Gas Producer.*—Power, June 24, 1913; 3500 w*; 20c.

Smeeton, John A.—*Modern Gas Producers and Coal Economy in Melting and Heating Furnaces.*—Ir. & C. Tr. Rev., London, Aug. 9, 1913; p 260; 4500 w*; 35c.

Smith, H. F.—*A New Process of Cleaning Producer Gas.* (Abstract from Jnl. Am. Soc. Mech. Engrs.).—Iron Age, Nov. 20, 1913; p 1158; 2200 w; 30c. Canadian Engr., Dec. 18, 1913; p 864; 2800 w*; 35c.

Trautschold, Reginald.—*Effect of Variable Load on Gas Producers.*—Power, July 29, 1913; p 167; 1500 w; 20c.

Whigman, William.—*Fuel Possibilities in Manufacture of Steel.* (Paper read before Am. Iron & Steel Inst.).—Iron Trade Rev., Dec. 18, 1913; p 1097; 6000 w; 25c.

Zunks, O.—*Gaserzeuger in der Ziegelindustrie.* [Gas producers in the brick industry].—Tonindustrie-Ztg., Nov. 20, 1913; p 1813; 600 w*; 35c.

———. *Producer-Gas Situation in the United States.* (Investigations by Prof. R. H. Fernald).—Power, July 1, 1913; p 16; 1500 w*; 20c.

MISCELLANEOUS POWER AND MACHINERY

Additon, A. Sydney.—*Under-Estimating the Cost of Milling Plants.*—M. & S. P., Aug. 16, 1913; p 263; 6500 w; 20c. (continuation).

Alford, Newell G.—*A Central Power Station in West Kentucky.*—Coal Age, Nov. 8, 1913; p 698; 3800 w*; 20c.

Aikens, Warren.—*Distributing Power to Arizona Mines.*—Mg. & Eng. World, Sept. 20, 1913; p 501; 1800 w*; 10c.

Aikens, Warren.—*Electrical Power for Central Arizona Mines.*—Mg. & Eng. World, Oct. 11, 1913; p 635; 2300 w*; 10c.

Anson, J. W.—*Electrical Distribution for Mines.* (Abstract of paper read before S. Af. Inst. El. Engrs.).—Electrician, London, June 27, 1913; p 491; 2000 w; 35c. Iron & Coal Tr. Rev., London, Sept. 5, 1913; p 331; 3000 w; 35c.

Artingstall, S. G., Jr.—*Coal Products Co.'s Power Plant, Joliet, Ill.*—Power, Sept. 16, 1913; p 384; 2500 w*; 20c.

Bernewitz, M. W. von.—*Power Plant at the Associated Mine, Kalgoorlie.*—M. & S. P., Aug. 30, 1913; p 346; 1700 w*; 20c.

Bernewitz, M. W. von.—*The Berrill Cam.*—M. & S. P., June 28, 1913; p 995; 800 w*; 20c.

Bickards, A. E.—*Power Problem in Bituminous Coal Mining.* (Abstract from Electrical Journal, Pittsburgh).—Coal & Coke Opr., Nov. 27, 1913; p 71; 2300 w; 25c.

Brehm, Clyde G.—*The Use of Electricity in Mines.*—Coal Age, Dec. 6, 1913; p 850; 2300 w*; 20c.

Coates, Matthew C.—*Power Gas Producers.*—Aus. Mg. Stand., Nov. 13, 1913; p 440; 4000 w*; 35c.

Crocker, W. J.—*Economy in the Machine Shop.*—Mg. & Eng. World, Oct. 4, 1913; p 589; 1900 w; 10c.

Cutler, H. C.—*Wolf Locomobiles at Buckhorn Mine, Nevada.*—E. & M. J., Dec. 27, 1913; p 1228; 900 w; 25c.

Edwards, Geo. E.—*Care of Induction Motors at Mines and Mills.*—Mg. & Eng. World, Oct. 18, 1913; p 689; 3000 w*; 10c.

Edwards, Geo. E.—*Electric Power from Fuels at Mines.*—Mg. & Eng. World, Nov. 15, 1913; p 870; 3200 w*; 10c.

Fernald, R. H.—*The Commercial Trend of the Producer-Gas Power Plant in the United States.*—Bull. 55, U. S. Bureau of Mines; 93 pp*.

Formis, Andre.—*Time Studies and Air Consumption.*—E. & M. J., June 14, 1913; p 1183; 1800 w*; 25c.

Gmeyner, Ernst. —*Ueber Braunkohlenbrikettierung;* [Briquetting lignite].—Montanistische Rundschau, June 1, 1913; p 527; 1200 w*; 35c.

Hadley, A. E.—*Sale of Power on the Rand* (Excerpts from paper presented before Inst. Elect. Engrs., London).—E. & M. J., July 19, 1913; p 106; 1500 w*; 25c.

Hagood, Lee.—*Operation of Transmission Lines.*—Trans. Am. Inst. Elec. Engrs., Dec., 1913; p 2163; 27 pp*; $1.15.

Hart, E. Edward.—*The Transmission of Power by Cotton Ropes.* (Abstract of paper read to Assn. of Engrs.-in-Charge).—Can. Mg. Jnl., June 1, 1913; p 336; 3000 w; June 15, 1913; 4500 w*; 35c.

Hebgen, Max.—*Hydro-Electric Development in Montana.* (Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Oct. 11, 1913; p 649; 4500 w*; 10c.

Hempel, Ingenieur.—*Die Konservierung von Leder Treibriemen;* [The care of leather driving belts].—Kohle & Erz, June 30, 1913; p 655; 1500 w; 35c.

Hetzel, F. V.—*Changing from Oil Fuel to Coal.*—Power, Dec. 2, 1913; p 803; 1500 w*; 20c.

Hodges, R. O.—*Gasoline Motors in Coal Mines.* (Abstract of paper read before W. Va. Coal Mg. Inst.).—C. & C. Opr., July 3, 1913; p 207; 7500 w; 20c.

Jackson, H. D.—*Use of Purchased Power in Coal Mines.*—Coal Age, June 28, 1913; p 982; 2500 w*; 20c.

Jenks, J. S.—*Central Power Station for Mines.* (Paper read before Pittsburgh meeting Am. Inst. Elec. Engrs.; abstract).—Coal Tr. Bull., June 2, 1913; 2300 w; 25c.

Kneeland, Frank H.—*A Mammoth Central-Power Plant.*—Coal Age, Dec. 6, 1913; p 846; 1200 w*; 20c.

Kneeland, Frank H.—*Preventing Accidents from Machines.*—Coal Age, Oct. 4, 1913; p 480; 1200 w*; 20c.

Kribs, Gordon.—*The Cost of Generating Power with Diesel Oil Engines.*—Canadian Engr., July 10, 1913; p 133; 2500 w; 35c.

Leroux, E. P.—*Les Locomotives avec Moteur a Benzine a Cylindres Multiples;* [Multiple cylinder gasoline locomotives].—

La Revue Noire, May 25, 1913; p 287; 400 w*; 35c.

Lof, E. A.—*The Generation and Transmission of Hydroelectric Power.* (Sixth article).—Engg. Mag., June, 1913; p 372; pp 12*; 35c.

Loring, W. J.—*Power on Mines.* [Notes on production of gas from wood, cost items].—Mg. Mag., Oct., 1913; p 278; 1600 w; 35c.

Malcolmson, James W.—*Electric-Power Installation at El Tigre Mine, Mexico.* (Trans. Am. Inst. Mg. Engrs.; abstract).—Mex. Mg. Jnl., June, 1913; p 297; 2200 w; 25c.

Marsh, A. G.—*Lubrication at Steptoe Concentrator, Nevada.*—E. & M. J., June 21, 1913; p 1237; 2500 w*; 25c.

McDonald, P. B.—*Developments on Michigan Iron Ranges.*—E. & M. J., Aug. 23, 1913; p 335; 4500 w*; 25c.

Merton, A. M.—*Mill Construction and Estimation of Costs.*—Mg. & Eng. World, Oct. 18, 1913; p 687; 2600 w; 10c.

Metzler, R.—*Die Gasreinigung auf dem Hochofenwerk Servola;* [Purifying Blast Furnace Gas at Servola (Austria)].—Montanistische Rundschau, June 1, 1913; p 531; 500 w*; (continued); 35c.

Muller, Max H.—*Cylinder Heads of Horizontal Single-Acting Motors.* (Translation from "Der Oelmotor").—Power June 17, 1913; p 859; 1600 w*; 20c.

Recktenwald, J.—*Die Verwendung von Druckwasser beim Bergbau.* [The use of water under pressure in mining].—Berg & Hüttenm. Rundschau, May 5, 1913; p 189; 1200 w; 30c.

Rice, Claude T.—*Framing Shaft Timber Sets by Machinery.*—Mg. & Eng. World, July 12, 1913; p 49; 4800 w*; 10c.

Rice, Claude T.—*Milling in Southeastern Missouri.* (Third article).—E. & M. J., July 5, 1913; p 7; 7000 w*; 25c.

Rice, S.—*Reducing Power-Plant Waste by Metering.*—Iron Trade Rev., Dec. 18, 1913; p 1106; 1600 w*; 35c.

Rice, S.—*The Use of Electric Power in Mining Operations.*—Iron Trade Rev., Sept. 25, 1913; p 545; 4300 w*; 25c.

Ricks, E. C.—*Machinery for Beehive Coke Ovens.*—Coal Age, June 7, 1913; p 885; 1500 w*; 20c.

Ripley, J. P.—*Graphical Chart of Power Costs.*—El. Rev. & West. Elect., Nov. 29, 1913; p 1058; 1500 w*; 20c.

Sampson, Charles C.—*Operation of Gas Engines Using Blast-Furnace Gas.* (Trans. Am. Soc. Mech. Engrs.; abstract).—Power, June 10, 1913; p 821; 2700 w*; 20c. Engg. Rev., London, June 16, 1913; p 461; 6000 w*; 35c.

Scott, E. Kilburn.—*Large Prime Movers and Boilers for Power Houses.* (Paper read before Natl. Assn. of Colly. Mgrs.).—Iron & Coal Tr. Rev., London, Oct. 31, 1913; p 634; 7000 w*; 35c.

Smith, A. D.—*Specifications for Lubricating Oil.* (Proceedings Engrs. Soc. West Pa.—Coll'y Engr., July, 1913; p 681; 4000 w; 35c.

Still, Alfred.—*Steel Towers for Overhead Transmission Lines.*—Jnl. Elec., P. & G., June 14, 1913; p 544; 4000 w*; 35c.

Strohm, R. T.—*Mechanics of Coal Mining.*—Coll'y Engr., July, 1913; p 713; 1700 w*; 35c.

Tupper, C. A.—*Machines for Continuous Current.*—Coal Age, Nov. 15, 1913; p 735; 3100 w*; Nov. 22, 1913; p 771; 2000 w*; 40c.

Tupper, C. A.—*Pressure Regulation for Hydro-Electric Plants.*—Mg. & Eng. World, June 21, 1913; p 1185; 4000 w*; 10c.

Vail, Richard.—*New Smelter of the United Verde Copper Co., Arizona.*—E. & M. J., Aug. 16, 1913; p 287; 4000 w*; 25c.

Vail, Richard H.—*The Brower Converter Hood.*—E. & M. J., June 21, 1913; p 1247; 650 w*; 25c.

Wallace, R. B.—*Lubricating Device for Hoisting Rope.*—E. & M. J., June 21, 1913; p 1246; 150 w*; 25c.

Whitcomb, W. C.—*The Use of Gasoline Motors in Coal Mines.* (Paper read before Kentucky Mg. Inst.).—Bl. Diam., Dec. 13, 1913; p 23; 2100 w; 30c.

M. L. M. E.—*An Adequate Winding Engine Brake.*—Mg. Engg., London, July, 1913; p 130; 2300 w*; 35c.

———. *Equipment of the City Deep Mine.*—S. Af. Engg., June, 1913; p 121; 2300 w*; 35c.

———. *Hydro-Electric Systems.* (Excerpts from report of committee on the "Operation of Water-Power Systems" of the Natl. Elec. Light Assn.).—Power, June 24, 1913; p 894; 2700 w; 20c.

———*Kick-Off for Discharging Timbers from Log-Haul.*—Mg. & Eng. World, Sept. 6, 1913; p 431; 700 w*; 10c.

——— *Oil for Water Navigation.* (Abstract from Advance Chap. Min. Res. U. S.).—Mg. & Eng. World, Nov. 8, 1913; p 841; 600 w; 10c.

——— *Rock-Drill Lubrication.*—E. & M. J., Sept. 13, 1913; p 489; 2000 w; 25c.

———. *Splicing Transmission Rope.* (From catalog of Am. Mfg. Co., N. Y.).—E. & M. J., July 19, 1913; p 110; 750 w*; 25c.

——— *Sun-Power Plant Demonstration in Egypt.* (Consular report).—Mg. & Eng. World, Nov. 15, 1913; p 890; 250 w; 10c.

——— *The Buckeye Locomobile.*—Coal Age, Sept. 13, 1913; p 382; 1500 w*; 20c.

——— *The Buckeye-mobile.* (Abstract from Power).—E. & M. J., Nov. 15, 1913; p 913; 1100 w*; 25c.

———. *Ueber Sandstralgebläse;* [Sand blast in the foundry].—Eisen-Zeitung, May 31, 1913; p 437; 400 w*; 35c.

PART IV.

MISCELLANEOUS.*

CHAPTER XX.

SLAGS, TAILINGS, FINES, FUMES, SLUDGE, ETC.

Benner, Raymond, C., and O'Connor, J. J., Jr.—*The Smoke Nuisance; A Question of Conservation* (Address before Canadian Conservation Commission).—Jnl. Ind. & Eng. Chem., July, 1913; p 587; 5400 w*; 65c.

Bernewitz, M. W. von (edited by).—*Cyanide Practice, 1910 to 1913.*—San Francisco, Mg. & Sci. Press; 732 pp*; $3 (book).

Bolles, Frank G.—*The Manufacture of Paving Brick from Furnace Slag* (U. S. Consular report).—Mg. & Eng. World, Nov. 1, 1913; p 784; 700 w; 10c.

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpt from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Clark, Eugene B.—*The Treatment of Blast Furnace Flue Dust.* (Paper read before Am. Iron & Steel Inst.).—Iron Age, Nov. 13, 1913; p 1108; 5500 w; 30c.

Coulston, P. Barrett.—*Should Exhaust Steam Be Wasted? Examples of Installations of Steam Turbines to Utilize Power Ordinarily Wasted in Exhaust.* (From Trans. Manchester Geol. & Mg. Soc.).—Colliery Engr., Aug., 1913; p 41; 2000 w; 35c.

Douglas, James.—*Handling Flue-Dust at the Copper Queen Smelter.* (Reply to discussion of paper read before Inst. Mg. & Met.).—M. & S. P., Dec. 13, 1913; p 929; 1300 w*; 20c.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Eddy, L. H.—*What Has Been the Fume Damage in California?*—E. & M. J., July 26, 1913; p 153; 2000 w*; 25c.

Edsall, Henry.—*Ash and Coal-Handling Equipments.*—Coal Age, July 12, 1913; p 38; 1800 w*; 20c

Eilers, A.—*Bag-House at Omaha Plant of A. S. & R. Co.* (Abstract from Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 9, 1913; p 245; 3000 w*; 10c.

Eilers, A.—*The Bag-House at the Murray Smelter, Utah.* (Proceedings Am. Inst. Mg. Engrs.; abstract).—Mg. & Eng. World, July 5, 1913; p 12; 3500 w*; 10c.

Elwitz, E.—*Die Verwertung der Hochofenschlacke;* [The utilization of blast-furnace slag].—Glückauf, May 31, 1913; p 855; 2400 w*; 50c.

Forbes, W. A.—*The Cleaning of Blast-Furnace Gas.*—Bull. 82, Am. Inst. Mg. Engrs., Oct., 1913; p 2477; 38 pp*; 35c. Ir. & C. Trades Rev., Nov. 14, 1913; p 759; 1900 w*; 35c.

Hall, William A.—*The Hall Ore Desulphurizing Process.*—E. & M. J., July 5, 1913; p 35; 2000 w; 25c.

Heberlein, Ferdinand.—*Eine Exkursion auf nordamerikanische-mexikanische Blei, Zink und Kupferhütten.* (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 716; 5000 w*; 50c.

Hempel, Walter.—*Gasanalytische Methoden.* [Methods for gas analysis].—Braunschweig, Germany; Friedr. Vieweg & Sohn; 420 pp*; $4 (book).

Heym, Ingenieur.—*Die Kraftmaschinen in der modernen amerikanischen Stahlindustrie.* [The power equipment in the modern American steel industry].—Kali, Erz & Kohle, Dec. 5, 1913; p 1215; 2500 w; Dec. 15; p 1252; 1000 w; 70c.

Hillman, Walter.—*Ueber Golderzbereitung.* [The treatment of gold ores] (Address before Soc. German Metallurgists and Miners).—Metall & Erz, Aug. 30, 1913; p 689; 22,500 w*; 50c.

Hoffman, H. O.—*General Metallurgy.*—New York; McGraw-Hill Book Co.; 909 pp*; $6 (book).

Juntzen, G.—*Granulation du Laitier par L'Air;* [The granulation of slag by means of air] (Abstract from address before Asso. of German Metallurgists).—L'Echo des Mines, June 12, 1913; p 680; 200 w; 35c.

Lang, Herbert.—*Common Sense of the Fume Question.*—M. & S. P., Aug. 30, 1913; p 341; 5000 w; 20c.

Liddell, Donald M.—*The Hall Desulphurizing Process.*—E. & M. J., July 12, 1913; p 50; 250 w; 25c.

Martin, A. H.—*Control of Noxious Smelter Fumes.*—M. & M., May, 1913; p 201; 4500 w*; 20c.

Martin, A. H.—*The Field Fume Control to be Tried Out in California.*—Mg. & Eng. World, Dec. 13, 1913; 1200 w; 10c.

Masselon, E.—*Épuration des Gaz de Hauts-Fourneaux.* [Purification of blast-furnace gas].—La Métallurgie, July 30, 1913; p 600; 700 w*; 35c.

Mathewson, E. P.—*Development of the Basic-Lined Converter for Copper Mattes.* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, Aug. 2, 1913; p 212; 750 w*; 10c.

Parker, Edward W.—*Fuel Briquetting in 1912.*—Adv. chap. Min. Resources of U. S., U. S. Geol. Surv.; 10 pp.

*Includes Waste Disposition; Metallography; Law, Legislation and Taxation; Conservation; Government Ownership; Financial and Business Organization; Historical; Educational; Schools and Societies; General Miscellany.

Peter, F.—*The Generation of Steam by Waste Heat from Furnaces.*—Trans. Am. Inst. Mg. Engrs., Bull. 84; Dec., 1913; p 2775; 29 pp*; 35c.

Peterson, Peter F.—*The Electric Furnace for Zinc-Smelting.*—Mg. & Eng. World, Aug. 16, 1913; p 303; 1500 w; 10c.

Phalen, W. C.—*Sulphuric Acid Industry in the United States.* (Abstract from Min. Res. of U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 2, 1913; p 201; 2250 w; 10c.

Pulsifer, H. B.—*Lead Smelting at Herculaneum, Missouri* [Plant of the St. Joseph Lead Co.].—Mg. & Eng. World, Dec. 13, 1913; p 1054; 6500 w*; 10c.

Rhead, E. L., and Sexton, A. H.—*Assaying and Metallurgical Analysis* (Second Edition).—(See under Gold.)

Rice, Claude T.—*Mining the Wide Ore Bodies at Butte.*—Mg. & Eng. World, Aug. 16, 1913; p 287; 3000 w*; 10c.

Rohland, P.—*Die Endlaugen der Kaliwerke.* [The end liquors of potash works].—Chemiker-Ztg., Nov. 25, 1913; p 1448; 800 w; 35c.

Rzehulka, A.—*Beiträge zur Frage der Gewinnung des Flugstaubes aus dem Hüttenrauch.* [Contributions to the question of the recovery of dust from smelter smoke].—Centralblatt Hütten & Walzwerke, Sept. 5, 1913; p 487; 900 w; Sept. 12, 1913; p 509; 1300 w; 70c.

Shurick, A. T.—*A New Device for Waste-Heat Recovery;* [In coke ovens].—Coal Age, June 7, 1913; p 870; 1500 w*; 20c.

Vail, Richard H.—*No. 2 Crushing Plant of Natomas Con. Co., California.*—E. & M. J., Sept. 13, 1913; p 481; 5000 w*; 25c.

Vogel, Felix A., and Tweedy, A. M.—*The Briquetting of Flue Dust in the United States by the Schumacher Process.*—Trans. Am. Inst. Mg. Engrs., Bull. 84, Dec., 1913; p 2829; 6 pp*; 35c.

Wagner, Alf.—*Ueber Hochofen-Gichtgase, deren Verwendung und Reinigung.* [On blast-furnace waste gases, their utilization and purification].—Bergbau, Sept. 18, 1913; p 625; 1200 w; 35c.

Wright, Clarence A.—*Mining and Treatment of Lead and Zinc Ores in the Joplin District, Missouri, a Preliminary Report.*—(See under Lead.)

——— *Aglomeracion y Enriquecimiento de las Menas de Hierro y de los Hollines.* [Agglomeration and enrichment of iron ores and of smokes].—Revista Minera, Sept. 16, 1913; p 445; 1500 w*; Sept. 24; p 461; 2200 w; 70c.

——— *Entstaubungsanlagen in Steinohlen-Separationen.* [Equipment for the removal of dust in coal separation].—Kohle & Erz, Sept. 1, 1913; p 922; 1200 w*; 35c.

———. *Granulating Molten Slag.*—E. & M. J., July 12, 1913; p 55; 200 w*; 25c.

———. *Reinforced-Concrete Tailings Bin.*—E. & M. J., Aug. 16, 1913; p 305; 700 w*; 25c.

——— *The Utilization of the Waste Heat of Regenerative Furnaces.* [Discussion of paper read at New York meeting].—Trans. Am. Inst. Mg. Engrs., Bull. 84, 1913; p 2893; 6 pp; 35c.

——— *The Douglas (Ariz.) Agglomerating Cone.*—E. & M. J., Oct. 4, 1913; p 627; 1000 w*; 25c.

———. *The Purification of Blast Furnace Gases* (Report of a paper read before Mg. & Met. Sect. of Société Industrielle de l'Est by C. Herweg on Feld washer).—Met. & Chem. Eng., July, 1913; p 399; 3850 w*; 35c.

METALLOGRAPHY

Bres, M.—*Divergences Entre la Structure et la Composition de Certains Aciers.* [Divergencies between the structure and the composition of certain steels].—Revue de Métallurgie, July, 1913; p 797; 2000 w*; $1.15.

Haan, Dipl. Ing.—*Schwefeleisen-Schwefelzinn.* [Iron sulphide-tin sulphide system].—Metall & Erz, Oct. 22, 1913; p 831; 1700 w*; 50c.

Handy, James Otis.—*The Manufacture, Properties and Uses of Composite Metal Made by Alloying or Welding Copper and Steel.*—Jnl. Ind. & Engg. Chem., Nov., 1913; p 884; 9500 w*; 65c.

Portevin, M. A.—*Sur Deux Aciers Nickel-Chrom.* [On two nickel-chromium steels].—Revue de Métallurgie, July, 1913; p 808; 600 w*; $1.15.

LAW; LEGISLATION; TAXATION

Arlt, H.—*Die Mineralschätze Tunisiens.* [The mineral wealth of Tunis].—Glückauf, July 26, 1913; p 1169; 7000 w*; 50c.

Barrett, Anthony.— *Don'ts for Inside Employes.*—Coal Age, July 12, 1913; p 45; 800 w; 20c.

Berger, Arno.—*Verhältnis des Bergrechts zum allgemeinen Bürgerlichen Recht.* [Relation of mining law to general civil law].—Technische Blätter, Aug. 31, 1913; p 279; 2800 w; 35c.

Brunton, D. W.—*Mining Problems and the Mining Congress.* (Presidential address delivered before Am. Mg. Cong.).—M. & S. P., Nov. 22, 1913; p 815; 4200 w; 20c.

Chance, H. M.—*Mine Taxation.* (Paper read before Am. Mg. Cong.).—S. L. Mg. Rev., Nov. 15, 1913; p 19; 2500 w; 25c.

Charlton, W. H.—*Insurance on Mine Property.*—Coll'y Eng., July, 1913; p 696; 1100 w; 35c.

Clayberg, John B.—*Extralateral Rights to Quartz Veins.* (Abstract from California Law Review).—E. & M. J., Sept. 20, 1913; p 537; 9500 w*; 25c.

Duenas and Canseco.—*La Reforma del Código de Mineria;* [Contribution of the Society of Engineers toward the Revision of the Mining Code of Peru].—Informaciones y Memorias, April, 1913; p 163; 22 pp; 50c.

Dunn, Russell L.—*A Dissertation on Mining Law.*—Mg. & Eng. World, Sept. 20, 1913; p 503; 8000 w; 10c.

Eddy, Lewis H.—*Kennedy Extension—Argonaut Apex Testimony Closed, California.*—E. & M. J., Nov. 29, 1913; p 1016; 600 w; 25c.

Garrison, F. Lynwood.—*Agricola; An Appreciation.*—M. & S. P., Aug. 9, 1913; p 218; 5500 w*; 20c.

Gartrell, H. W.—*Workmen's Compensation Problems.*—M. & S. P., July 19, 1913; p 105; 1000 w; 20c.

Gattnar, Josef.—*Die Naphthagesetzgebung in Oesterreich.* [Naphtha legislation in Austria].—Petroleum, June 4, 1913; p 1129; 2600 w; June 18, 1913; p 1190; 7000 w: $1.

Görres, Dr.—*Vorschläge zur Verbesserung des Kaligesetzes;* [Proposals for the improvement of the potash law].—Bergwerks-

Ztg., June 15, 1913; p 1; 2400 w; June 17; p 1; 2500 w; 35c.

Griffith, William.—*Assessing and Taxing Coal in the Ground.*—Coll'y Engr., July, 1913; p 669; 2300 w; 35c.

Günthersberger, J.—*Die Wohnungsfürsorge und Bergarbeiterwohnungen;* [The care of residences and miners' houses] (First part).—Ztg. Zentral-Verbd. Bergbau-Betriebsl., June 15, 1913; p 345; 3500 w; 35c.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Ers. & Kohle, Aug. 15, 1913; p 808; 2500 w*; 35c.

Hohl, H. J.—*Public Land Withdrawals.*—E. & M. J., Nov. 29, 1913; p 1034; 1100 w; 25c.

Holmes, Joseph A.—*Second Annual Report of the Director of the Bureau of Mines for the fiscal Year Ended June 30, 1912.*—U. S. Dep. of the Interior; 88 pp.

Hood, O. P., and Heggem, A. G.—*Proposed Regulations for the Drilling of Gas and Oil Wells, with Comments Thereon.*—Tech. Paper 53, Petrol. Tech. 4, U. S. Bureau of Mines; 28 pp*.

Hore, Reginald E.—*Copper Mining in Michigan.*—Canadian M. Jnl., Oct. 15, 1913; p 643; 3000 w*; 35c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Jarvis Loyal P.—*Revision of United States Mining Laws.*—M. & S. P., Nov. 29, 1913; p 862; 2250 w; 20c.

Kearton, C.—*The Assessment of Collieries in Great Britain.* (Paper read before Kent Branch of Natl. Assn. Colliery Mgrs.).—Iron & Coal Tr. Rev., Nov. 7, 1913; p 722; 2000 w; 35c.

Lowag, Josef.—*Die alten Bergrechte und Bergordnungen in Böhmen, Mähren und Schlesien.* [The old mining laws and regulations in Bohemia, Moravia and Silesia].—Montanist. Rundschau, July 16, 1913; p 677; 1200 w; 35c.

McDonald, P. B.—*Michigan Mining Lawsuits.*—E. & M. J., June 28, 1913; p 1298; 1000 w; 25c.

Martell, Paul.—*Die Arbeiterversicherungsgesetze in der russischen Montanindustrie.* [Workmen's insurance laws in the Russian mining industry].—Bergbau, Sept. 18, 1913; p 626; 1500 w; 35c.

Miller, J. P.—*The Assessment of Mines.* (Paper read before Natl. Tax Assn. at Buffalo).—E. & M. J., Nov. 22, 1913; p 969; 2700 w; 25c.

Norris, R. V.—*The Taxation of Coal Lands.* (Paper read before Am. Mg. Cong.).—Coal Age, Nov. 1, 1913; p 647; 2200 w; 25c.

Raymond, R. W.—*The Smuggler Union and Liberty Bell Case.*—E. & M. J., June 14, 1913; p 1212; 4000 w; 25c.

Ricketts, A. H.—*The Truth About "Pinchott's Doughnuts."*—Mg. & Eng. World, July 26, 1913; p 161; 3000 w; 10c.

Ronald, J. T.—*Expert Testimony; Its Materiality; Causes for Its Discredit and Remedy* (Address before Puget Sound Sec. A. C. S.).—Jnl. Ind. & Met. Chem., July, 1913; p 582; 4500 w; 65c.

Rosa, E. B., and McBride, R. S.—*Legal Specifications for Illuminating Gas.*—Technologic Paper 14, Bureau of Standards, Dep. of Commerce and Labor; 31 pp.

Searls, Robert M.—*Revision of the Mining Law; A Critique.*—M. & S. P., Dec. 27, 1913; p 1014; 3000 w; 20c.

Shafroth, J. F.—*Administration of Public Mining Lands.* (Paper read before Am. Mg. Cong.).—Coal Age, Nov. 1, 1913; p 643; 2200 w; 25c.

Simmons, Major J. A.—*The Origin of the Present Apex Law.*—Mg. & Eng. World,

Smith, George Otis.—*Plain Talk on Land Law Revision.* (Address before Am. Mg. Congress, Philadelphia).—M. & S. P., Oct. 25, 1913; p 640; 2800 w; 20c.

Thompson, J. W.—*Abstract of Current Decisions on Mines and Mining, Oct., 1912, to March, 1913.*—Washington, D. C.; Bulletin 61, U. S. Bureau of Mines; 82 pp.

Van Hise, C. R.—*Big Business and Industrial Prosperity.* (Abstract of address delivered before Am. Mg. Cong.).—M. & S. P., Nov. 8, 1913; p 730; 2600 w; 20c.

Walsh, Thomas J.—*General Land Laws in Relation to Mining.* (Address delivered before Am. Mg. Cong.).—Mg. & Eng. World, Nov. 8, 1913; p 833; 3700 w; 10c.

Waterlot, C.—*La Legislation Minière en France.* [Mining legislation in France].—Bull. Soc. Amicale Douai, July 25, 1913; p 516; 1900 w; 35c.

Wright, G. Alexander.—*Wright on Building Arbitrations; A Manual for Architects, Students, Contractors and Construction Engineers* (Second Edition).—San Francisco, 1913; 47 pp; $1.

W. W. A.—*Prospecting in Forest Reserves.*—Mg. & Eng. World, July 5, 1913; p 23; 2000 w; 10c.

———. *Arizona Mine Valuation.*—Mg. & Eng. World, Aug. 2, 1913; p 217; 200 w; 10c.

———. *Arizona Mine Taxes.*—E. & M. J., Aug. 23, 1913; p. 346; 500 w; 25c.

——— *Court Rules Federal Power Is Supreme on Federal Lands.*—Mg. & Eng. World, Dec. 27, 1913; p 1144; 1300 w; 10c.

——— *Depreciation to Be Deducted from Mining Company Profits.* [Abstract of decision in the case involving the application of the corporation tax to mining properties brought by Stratton's Independence, Ltd.).—E. & M. J., Dec. 27, 1913; p 1212; 1600 w; 25c.

———. *Der Monopolgesetzentwurf nach den Beschlüssen der Leuchtölkommission;* [Outline of the monopoly law according to the decisions of the illuminating-oil commission].—Petroleum, April 16, 1913; p 915; 3500 w; 60c.

——— *Der Prozess der Deutsch-Amerikanischen Petroleum-Gesellschaft gegen die Deutsche Petroleum-Verkaufs-Gesellschaft.* [The suit of the German-American Petroleum Sales Co.].—Petroleum, June 4, 1913; p 1136; 1000 w; 60c.

———. *Die Entwickelung der Monopolfrage;* [The evolution of the monopoly question].—Petroleum, Apl. 16, 1913; p 906; 9000 w; May 7, 1913; p 966; 28,000 w; May 21; p 1069; 4000 w; June 18, 1913; p 1189; 1100 w; July 2, 1913; p 1300; 800 w; $2.50.

——— *Die Unfallversicherung der Bergarbeiter.* [Accident insurance of mine workers].—Montan-Ztg., Aug. 1, 1913; p 284; 1500 w; 35c.

——— *Die Verkehrs und Handelsvorschriften für das Petroleum in den einzelnen Ländern.* [Trade and commerce rules for petroleum in different countries].—Petroleum, June 4, 1913; p 1134; 2700 w; Nov. 5, 1913; p 155; 4500 w; $1.

——— *Discussion of Miner's Compensation Laws.* (Proc. 6th annual meeting Mine Inspectors' Inst.).—Coal Age, Nov. 22, 1913;

p 767; 4800 w; Nov. 29, 1913; 5000 w; 40c.

———*Eighteenth Annual Report of the Rhodesia Chamber of Mines for the Year* 1912.—Bulawayo; 136 pp.

———. *Entscheidungen des Obersten Gerichtshofes.* [Decisions of the Supreme Court, Austria].—Montan-Ztg., July 1, 1913; p 244; 1200 w; 35c.

——— *Entwurf einer Polizeiverordnung über den Verkehr mit Mineralölen und Mineralölmischungen in Deutschland.* [Draft of a police regulation on the commerce with mineral oils and mineral-oil mixtures].—Petroleum, July 2, 1913; p 1249; 20,000 w; 50c.

———. *Forest Users May Participate in Administration.*—Mg. & Eng. World, Aug. 2, 1913; p 204; 500 w; 10c.

———. *Forester Graves Discusses Mining on the National Forests.*—Mg. & Eng. World. Dec. 27. 1913; p 1161; 1200 w; 10c.

——— *Government's Final Income-Tax Rules.*—Mg. & Eng. World, Nov. 8, 1913; p 839; 3800 w; 10c.

——— *La Legislation Minière en France.* [Mining legislation in France].—Bull. Soc. Amicale Douai, Aug. 10, 1913; p 542; 450 w; 35c.

———. *Legislatures and the Mining Industry.*—Mg. & Eng. World, June 28, 1913; p 221; 500 w; 10c.

———. *Metal Tariff in the Senate.*—E. & M. J., Aug. 2, 1913; p 198; 1000 w; 25c.

——— *Michigan Mining Interests in Spitsbergen.*—E. & M. J., Nov. 29, 1913; p 1008; 750 w; 25c.

——— *Mine Taxation in Nevada.* [Editorial].—Mg. & Eng. World, Sept. 20, 1913; p 499; 600 w; 10c.

———. *Mine Ventilation; Methods of Conducting Air Through Mines; Legal Requirements of the Different States*—Colliery Engr., Aug., 1913; p 45; 1400 w*; 35c.

———. *Minerals Separation vs. James M. Hyde.* [Portions of decision bearing on the technical points].—E. & M. J., Aug. 16, 1913; p 317; 3000 w; 25c.

———. *Mining Administration in China.*—Mg. Jnl., London, June 28, 1913; 1500 w; 35c.

——— *Mining and the Departments.* (Editorial).—M. & S. P., Nov. 29, 1913; p 842; 600 w; 20c.

———. *New Mining Law in Missouri (Editorial).*—Colliery Engr., Aug., 1913; p 3; 500 w; 35c.

——— *New Tariff Rates on Metals, Etc.*—Mg. & Eng. World, Oct. 11, 1913; p 637; 3000 w; 10c.

———. *Regulation of Well Drilling Through Coal*—E. & M. J., July 26, 1913; p 151; 400 w; 25c.

——— *Report of the Committee on Uniform Mine Accident Laws.*—Proc. Colo. Sci. Soc., Vol. X, pp 279-414; 65c.

——— *Revision of United States Mining Laws.* (Report of Committee of the Mining & Metallurgical Society of America).—M. & S. P., Oct. 11, 1913; p 571; 6000 w; 20c.

———. *Right-of-Way in Mining* (Editorial).—E. & M. J., July 12, 1913; p 82; 350 w; 25c.

———. *Rules and Regulations to Govern the Coal Mines at Gebo, Wyo., Leased to the Owl Creek Coal Co.*—U. S. Bureau of Mines; 13 pp.

———. *Safety Rules—Hoisting Engineers* (Inland Steel Co. Rules).—E. & M. J., July 19, 1913; p 115; 400 w; 25c.

———. *Safety Rules—Instructions to Foremen* (From Inland Steel Co. Rules).—E. & M. J., July 19, 1913; p 120; 500 w; 25c.

———. *Safety Rules—Blasting.* (From Inland Steel Co.'s book of rules).—E. & M. J., Aug. 9, 1913; p 259; 500 w; 25c.

———. *Six Million Acres of Withdrawn Lands Restored to Entry.*—Mg. & Eng. World, Aug. 9, 1913; p 259; 900 w; 10c.

———. *Suggested Changes in United States Mining Law.* (Expression of opinion from members of Met. Soc. of Am.; transactions of the society).—Mg. & Eng. World, June 28, 1913; p 1240; 8000 w; July 5, 1913; p 19; 4000 w; July 12, 1913; p 66; 3000 w; July 19, 1913; p 112; 4500 w; July 26; p 158; 4500 w; Aug. 9, 1913; p 257; 3200 w; 50c.

———. *Tariff Discussions.*—E. & M. J., Aug. 9, 1913; p 246; 400 w; 25c.

——— *Tax on Mining Income.*—E. & M. J., Oct. 4, 1913; p 655; 2000 w; 25c.

——— *Tax Valuation of Iron in Stock.* (Editorial).—Mg. & Eng. World, Oct. 11, 1913; p 633; 600 w; 10c.

———. *Testing Plants* (Editorial) on governor's veto of appropriation for Colorado School of Mines).—Met. & Chem. Eng., July, 1913; p 368; 400 w; 35c.

———. *The Beatty-Guggenheim Case.*—E. & M. J., July 12, 1913; p 84; 1800 w; 25c.

——— *The Bromo-Cyanide Process Litigation.* [Editorial].—M. & S. P., Sept. 13, 1913; p 407; 2400 w; 20c.

——— *The Government and the Steel Corporation.* (From N. Y. Sun).—E. & M. J., Oct. 25, 1913; p 782; 800 w; 25c.

——— *The Kennedy Extension-Argonaut Apex Suit, California.* (Abstract from Jackson Gazette).—E. & M. J., Oct. 11, 1913; p 703; 1000 w; 25c.

——— *The New Mining Laws of Alaska.*—Mg. & Eng. World, Nov. 29, 1913; p 977; 2300 w; 10c.

———. *The New Mining Law of Colorado* (Editorial).—Coal Age, July 12, 1913; p 57; 1200 w; 20c.

——— *The New U. S. Tariff on Mineral Products.*—M. & S. P., Oct. 25, 1913; p 656; 3000 w; 20c.

———. *The Sherman Act* (Editorial).—Coal Age, June 21, 1913; p 966; 600 w; 20c.

———. *The Tariff on Zinc and Lead Ore.* [Editorial].—E. & M. J., Aug. 9, 1913; p 271; 700 w; 25c.

———. *Valuation of Iron Mines for Taxation;* [Discussion of the Finlay paper before Am. Inst. Mg. Engrs.].—Mg. & Eng. World, June 14, 1913; p 1143; 5000 w; 10c.

——— *Vorläufiger Bericht der Leuchtöl-Kommission des Reichstages zur Vorberatung des Entwurfs eines Gesetzes über den Verkehr mit Leuchtöl.* [Preliminary report of the illuminating oil commission of the Imperial Diet (Germany) for the advance consideration of the draft of a law on the commerce with illuminating oil].—Petroleum, July 2, 1913; p 1282; 18,000 w; 50c.

———. *Water Power Decision of the U. S. Supreme Court* [In Case of U. S. vs. Chandler-Dunbar Water-Power Co.].—Met. & Chem. Eng., July, 1913; p 374; 3000 w; 35c.

———. *Why Should Mining Be Taxed*

to Death? [Editorial].—Mg. & Eng. World, Oct. 4, 1913; p 583; 850 w; 10c.

———. *Workmen's Compensation and Employer's Insurance in California.*—E. & M. J., June 28, 1913; p 1274; 2000 w; 25c.

——— *Yard Decision Reversed.* [Editorial].—M. & S. P., Dec. 6, 1913; p 878; 900 w; 20c.

CONSERVATION AND GOVERNMENT OWNERSHIP

Conservation

Andrews, W. W.—*The Scientific Utilisation of Natural Resources.* (Paper read before Union of Saskatchewan Municipalities, Canada).—Canadian Engr., July 10, 1913; p 154; 2700 w; 35c.

Arnold, Ralph, and Clapp, Frederick G.—*Wastes in the Production and Utilisation of Natural Gas and Means for Their Prevention.*—Tech. Paper 38, Petrol. Tech. 6, U. S. Bureau of Mines; pp 29.

Benner, Raymond C., and O'Connor, J. J., Jr.—*The Smoke Nuisance; A Question of Conservation* (Address before Canadian Conservation Commission).—Jnl. Ind. & Eng. Chem., July, 1913; p 587; 5400 w*; 65c,

Berthelot, Charles.—*Etude des Nouveau Systémes de Condensation Goudronneuse du Gaz de Houille et de Production du Sulfate d'Ammoniaque.* [Study of the new systems of condensing tar from coal gas, and the production of ammonium sulphate].—Revue de Métallurgie, Aug., 1913; p 1010; 16,000 w*; Sept.; p 1065; 30,000 w*; $2.30.

Bradley, Linn.—*Recent Cottrell Electric Precipitation Results.* (Excerpt from Proc. Engrs.' Soc. of Western Pa.).—E. & M. J., Aug. 9, 1913; p 247; 1400 w; 25c.

Brown, Rome G.—*The Conservation of Water Power* (From Harvard Law Review).—Mg. Sci., July, 1913; p 31; 3000 w*; 35c.

Coulston, P. Barrett.—*Should Exhaust Steam Be Wasted? Examples of Installations of Steam Turbines to Utilize Power Ordinarily Wasted in Exhaust.* (From Trans. Manchester Geol. & Mg. Soc.).—Colliery Engr., Aug., 1913; p 41; 2000 w; 35c.

Douglas, James.—*Conservation.*—Sch. of Mines Quarterly, July, 1913; p 335; pp 10; 65c. Abstract in C. & C. Op., July 17, 1913; p 257; 2000 w; 25c.

Douglas, James.—*The Conservation of Mineral Resources.* (Address delivered at Columbia Univ.).—Mg. & Eng. World, Aug. 2, 1913; p 209; 2700 w; 10c.

Dunn, Russel L.—*Mining Industry's Side of the Forest Service.*—Mg. & Eng. World, June 21, 1913; p 1193; 1700 w; 10c.

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Gould, Charles N.—*Conservation in the Mid-Continent Field.*—Nat. Gas Jnl., Oct., 1913; p 488; 5000 w; 35c.

Griffith, William.—*The Leasing of Mineral Lands.*—Colly. Engr., Oct., 1913; p 167; 1700 w; 35c.

Henahen, J. R.—*Present Conservation Policy Retards Development.*—Mg. & Eng. World, July 5, 1913; p 6; 900 w; 10c.

Liddell, Donald, M.—*The Hall Desulphurising Process.*—E. & M. J., July 12, 1913; p 50; 250 w; 25c.

Martin, A. H.—*The Field Fume Control to be Tried Out in California.*—Mg. & Eng. World, Dec. 13, 1913; 1200 w; 10c.

Phalen, W. C.—*Sulphuric Acid Industry in the United States.* (Abstract from Min. Res. of U. S., U. S. Geol. Surv.).—Mg. & Eng. World, Aug. 2, 1913; p 201; 2250 w; 10c.

Ricketts, A. H.—*The Truth About "Pinchott's Doughnuts."*—Mg. & Eng. World, July 26, 1913; p 161; 3000 w; 10c.

Rzehulka, A.—*Beiträge zur Frage der Gewinnung des Flugstaubes aus dem Hüttenrauch.* [Contributions to the question of the recovery of dust from smelter smoke].—Centralblatt Hütten & Walzwerke, Sept. 5, 1913; p 487; 900 w; Sept. 15, 1913; p 509; 1300 w; 70c.

Smith, Geo. Otis.—*How Shall Public Mineral Rights Be Disposed Of?* (Paper read before Am. Mg. Cong.).—C. & C. Opr., Oct. 30, 1913; p 583; 1500 w; 20c.

Van Hise, C. R.—*Big Business and Industrial Prosperity.* (Abstract of address delivered before Am. Mg. Cong.).—M. & S. P., Nov. 8, 1913; p 730; 2600 w; 20c.

Wagner, Alf.—*Ueber Hochofen-Gichtgase, deren Verwendung und Reinigung.* [On blast-furnace waste gases, their utilization and purification].—Bergbau, Sept. 18, 1913; p 625; 1200 w; 35c.

Walsh, Thomas J.—*General Land Laws in Relation to Mining.* (Address delivered before Am. Mg. Cong.).—Mg. & Eng. World, Nov. 8, 1913; p 833; 3700 w; 10c.

W. W. A.—*Prospecting in Forest Reserves.*—Mg. & Eng. World, July 5, 1913; p 23; 2000 w; 10c.

——— *Address of President Brunton of the American Mining Congress.*—Mg. & Eng. World, Nov. 15, 1913; p 887; 3500 w; 10c.

——— *Conservation of Coal and Liquid Fuel.* (A resumé of papers read before Brit. Assn. for Advancement of Science).—Power, Oct. 21, 1913; p 564; 2700 w; 20c.

——— *Conserving the Carnotite Deposits of the United States.* (Abstract from Bull. 70, U. S. Bur. of Mines).—Mg. & Eng. World, Dec. 27, 1913; p 1160.

———. *Criminal Waste of Natural Gas and Means to Prevent It.*—Nat. Gas Jnl., Aug., 1913; p 380; 12,000 w; 25c.

——— *Die Vergeudung von Erdgas in Amerika und Schutzmittel dagegen.* [The waste of natural gas in America and means of protection against it] (Translated from Petroleum Rev.).—Chemiker & Tech.-Ztg., Sept. 16, 1913; p 137; 2000 w; Oct. 1; p 148; 1000 w; 70c.

——— *Fifth Annual Conservation Congress.*—El. Rev. & West. Elect., Nov. 29, 1913; p 1073; 5000 w; 20c.

———. *Granulating Molten Slag.*—E. & M. J., July 12, 1913; p 55; 200 w*; 25c.

———. *The Conservation of Natural Gas.* (Report of the Conservation Committee of Nat. Gas Assn.).—Nat. Gas Jnl., Aug., 1913; p 390; 3500 w; 25c.

——— *Yard Decision Reversed.* [Editorial].—M. & S. P., Dec. 6, 1913; p 878; 900 w; 20c.

Government Ownership

Dunn, Russel L.—*Mining Industry's Side of the Forest Service.*—Mg. & Eng. World, June 21, 1913; p 1193; 1700 w; 10c.

Griffith, William.—*The Leasing of Min-*

eral Lands.—Colly. Engr., Oct., 1913; p 167; 1700 w; 35c.

Searls, Robert M.—*Revision of the Mining Law; A Critique.*—M. & S. P., Dec. 27, 1913; p 1014; 3000 w; 20c.

Shafroth, J. F.—*Administration of Public Mining Lands.* (Paper read before Am. Mg. Cong.).—Coal Age, Nov. 1, 1913; p 643; 2200 w; 25c.

Smith, Geo. Otis.—*How Shall Public Mineral Rights Be Disposed Of?* Paper read before Am. Mg. Cong.).—C. & C. Opr., Oct. 30, 1913; p 583; 1500 w; 20c.

Smith, George Otis, and Others.—*The Classification of Public Lands.*—Bull. 537, U. S. Geol. Surv.; 197 pp*.

Walsh, Thomas J.—*General Land Laws in Relation to Mining.* (Address delivered before Am. Mg. Cong.).—Mg. & Eng. World, Nov. 8, 1913; p 833; 3700 w; 10c.

Weber, Geo. W.—*The Proposed Government Ownership of Railroads.*—Mg. & Eng. World, Dec. 27, 1913; p 1148; 1000 w; 10c.

Winslow, Alfred A.—*Government Control of Chilean Mineral Deposits.* (U. S. Consular report).—Mg. & Eng. World, Oct. 11, 1913; p 641; 600 w; 10c.

——— *Court Rules Federal Power Is Supreme on Federal Lands.*—Mg. & Eng. World, Dec. 27, 1913; p 1144; 1300 w; 10c.

——— *Forester Graves Discusses Mining on the National Forests.*—Mg. & Eng. World, Dec. 27, 1913; p 1161; 1200 w; 10c.

——— *Revision of United States Mining Laws.* (Report of Committee of the Mining & Metallurgical Society of America).—M. & S. P., Oct. 11, 1913; p 571; 6000 w; 20c.

FINANCIAL; BUSINESS ORGANIZATION

Clark, Eugene B.—*How Blast Furnace Flue Dust Can Be Utilized.* (Paper read before Am. Iron & Steel Inst.).—Iron Trade Rev., Dec. 11, 1913; p 1050; 4500 w*; 25c.

Soupcoff, S. M.—*Method of Financing Mining Property.*—E. & M. J., Nov. 1, 1913; p 827; 1000 w; 25c.

Stone, S. R.—*Plant of the Brakpan Mines, South Africa.*—Mg. & Eng. World, Dec. 20, 1913; p 1100; 2600 w*; 10c.

Williams, Percy.—*The Financing of Prospective Mining Enterprises.* (Address delivered before Vancouver Chamber of Mines).—Mg. & Engg. Rec., Victoria, May, 1913; p 186; 4500 w; 35c.

——— *Der Salpetermarkt im ersten Halbjahr,* 1913. [The saltpeter market in the first half of 1913].—Kunstdünger-Industrie, Aug. 1, 1913; p 323; 500 w; 35c.

——— *Depreciation to Be Deducted from Mining Company Profits.* (Abstract of decision in the case involving the application of the corporation tax to mining properties brought by Stratton's Independence, Ltd.).—E. & M. J., Dec. 27, 1913; p 1212; 1600 w; 25c.

——— *Semi-Annual Report of American Smelting and Refining Co.*—Mg. & Eng. World, Sept. 13, 1913; p 474; 900 w; 10c.

——— *The Copper Situation.* [Editorial]. M. & S. P., Oct. 25, 1913; p 639; 1000 w; 20c.

———. *The Financial Outlook* (Editorial).—Coal Age, June 21, 1913; p 965; 500 w; 20c.

——— *The Stock Exchange and Reforms.* [Editorial].—Mg. & Eng. World, Oct. 18, 1913; p 679; 1500 w; 10c.

EDUCATIONAL; SCHOOLS AND SOCIETIES

Douglas, James.—*Principles More Important than Practice in Technical Education.* (Commencement address delivered at Colorado School of Mines).—Quarterly of Colo. Sch. of Mines, July, 1913; pp 10; 25c. Met. & Chem. Eng., July, 1913; p 377; 5500 w; 35c.

Price, William Z.—*Alabama Coal Operators' Association.* [Fifth annual session].—Coll'y Engr., Sept., 1913; p 69; 5000 w*; 35c.

Shurick, A. T.—*The M-O-I. and Kokoal Dealers' Convention.*—Coal Age, July 12, 1913; p 49; 2500 w*; 20c.

Strohm, R. T.—*Mechanics of Mining; An Explanation of the Principles Underlying Calculations Relating to Engines, Pumps and Other Machinery.*—Colliery Engr., Aug., 1913; p 43; 1600 w*; 35c.

Wardsworth, M. E.—*Technical Language in Educational Writings.*—Coal Age, June 21, 1913; p 946; 800 w; 20c.

——— *American Electrochemical Society; Colorado Meeting.*—Met. & Chem. Engg., Oct., 1913; p 569; 23 pp*; 35c.

———. *American Electrochemical Society* [Denver meeting].—E. & M. J., Sept. 20, 1913; p 551; 1750 w; 25c.

———. *American Institute of Electrical Engineers.* (Thirtieth annual convention).—El. Rev. & W. Elect., July 5, 1913; p 24; 15,000 w; 20c. Engg. News, July 10, 1913; p 77; 4000 w; 25c.

———. *American Institute of Mining Engineers; Board of Directors.*—E. & M. J., June 14, 1913; p 1187*; 25c.

———*American Institute of Mining Engineers; Butte Meeting.*—Mg. & Eng. World, Sept. 6, 1913; p 416; 6500 w; 10c.

——— *American Institute of Mining Engineers; Iron and Steel Section.* [New York meeting].—Iron Age, Oct. 23, 1913; p 900; 10,000 w; 30c.

———. *American Institute of Mining Engineers and Mining and Metallurgical Society of America.*—Editorial.—M. & S. P., Sept. 6, 1913; p 366; 1400 w; 20c.

——— *American Mine Safety Association.* [Pittsburgh meeting].—Mg. & Eng. World, Oct. 4, 1913; p 597; 2500 w; 10c.

———. *American Mining Congress.* [Proceedings Fifteenth Annual Session, 1912].—251 pp. Denver, Colo.—Mg. & Eng. World, Sept. 6, 1913; p 409; 5000 w; 10c.

———. *American Society for Testing Materials.* [Annual meeting].—Engg. News, July 3, 1913; p 37; 10,000 w; July 10, 1913; p 74; 4000 w; 50c.

———. *Annual Meeting of American Mine Safety Association.*—Mg. & Eng. World, July 26, 1913; p 164; 600 w; 10c.

———. *Association of Mining Electrical Engineers; South Wales Branch.* (Annual meeting).—Ir. & C. Tr. Rev., London, July 4, 1913; p 20; 4000 w*; 35c.

———. *Australian Institute of Mining Engineers* (Broken Hill Congress).—Austr. Mg. Stand., June 5, 1913; p 467; 15,000 w*; 35c.

———. *Canadian Electrical Association.*

(Twenty-third annual convention).—El. Rev. & W. Elect., July 5, 1913; p 33; 6500 w; 20c.

———. *Canadian Mining Institute* (Western branch; May meeting).—Mg. & Eng. World, June 14, 1913; p 1147; 2700 w; 10c.

——— *Institution of Mining Engineers.* [24th annual meeting].—Colly. Guard., London, Oct. 3, 1913; p 681; 8600 w; 35c.

——— *International Acetylene Association* [New York meeting].—Acetylene Jnl., Sept., 1913; p 101; 10,000 w*; 20c.

———. *International Geological Congress,* 1913.—E. & M. J., Aug. 9, 1913; p 275; 500 w; 2oc.

——— *Iron and Steel Institute* [Brussels meeting].—Iron & Coal Tr. Rev., Sept. 5, 1913; p 323; 58 pp*; 35c.

——— *Lake Superior Mining Institute; Minnesota Meeting.*—Mg. & Eng. World, Sept. 6, 1913; p 413; 3600 w; 10c.

——— *Meeting of American Mine Safety Association at Pittsburgh.*—Mg. & Eng. World, Sept. 13, 1913; p 460; 400 w; 10c.

———. *Meeting of the Coal Mining Institute of America* (Pittsburgh, June 15).—Bl. Diam., June 21, 1913; p 109; 2000 w; 30c.

——— *Mexican Mining & Metallurgical Institute.* [President's address].—Mex. Mg. Jnl., Aug., 1913; p 388; 6500 w; 35c.

———. *Mining Schools and Politics.*—[Editorial].—M. & S. P., July 26, 1913; p 131; 900 w; 20c.

——— *National Lime Manufacturers' Association.* — Proceedings 11th Annual Meeting, pp 279*.

———. *National Rescue and First-Aid Association.* [Proposed constitution for permanent organization].—Coal Tr. Bull., Aug. 1, 1913; p 52; 1700 w; 25c.

———. *Oregon & California Mining Congress.* (May 21, 1913).—Mg. & Eng. World, June 14, 1913; p 1149; 1400 w; 10c.

———. *Rocky Mountain Coal Mining Institute* [Salt Lake City meeting].—Coal Age, July 5, 1913; p 16; 1300 w*; 20c.

———. *Testing Plants* (Editorial on governor's veto of appropriation for Colorado School of Mines).—Met. & Chem. Eng., July, 1913; p 368; 400 w; 35c.

———*The English Ceramic Society.* [Trans., session 1913].—Published by the Society, 240 pp.

———. *The Essentials of Mining Education* (Editorial).—Mg. & Eng. World, July 19, 1913; p 97; 500 w; 10c.

———. *The Geological Congress at Sudbury, Ontario.* [Editorial].—M. & S. P., Aug. 9, 1913; p 215; 1000 w; 20c.

———. *The Russell Sage Laboratory of the Rensselaer Polytechnic Institute.*—Ir. Tr. Rev., July 31, 1913; p 261; 6000 w*; 25c.

——— *The Twelfth International Geological Congress.*—Canadian Mg. Jnl., Aug. 1, 1913; p 455; 18 pp*; Aug. 15, 1913; p 504; 14 pp*; 70c.

——— *The Work of the West Virginia Mining Association.*—Mg. & Eng. World, Sept. 20, 1913; p 512; 800 w; 10c.

——— *Transactions of the American Institute of Chemical Engineers, Vol. V,* 1912.—New York; D. Van Nostrand Co.; 284 pp*; $6. (book).

——— *Western Societies A. I. M. E. Joint Sessions at Wallace, Idaho.*—Mg. & Eng. World, Nov. 29, 1913; p 967; 5000 w; 10c.

HISTORY

Aigner, August.—*Die Salzbergbaue in den Alpen von ihrem Beginne bis zur Jetzzeit;* [Salt mining in the Alps from its beginning to the present time].—Montanist. Rundschau, May 16, 1913; p 450; 1800 w; July 1, 1913; p 621; 2200 w; 70c.

Alderson, Matt. W.—*Changes in Butte in Quarter Century.*—Mg. & Eng. World, June 14, 1913; p 1151; 2250 w; 10c.

Dünkelberg, Bergassessor. — *Uebersicht über die Entwickelung des schlesischen Berg und Hüttenwesens.* [A review of the development of Silesian mining and metallurgy].—Glückauf, Aug. 30, 1913; p 1358; 4500 w; 50c.

Fisken, J. B.—*Electrical Appliances in the Coeur d'Alenes* (From Trans. Am. Inst. Mg. Engrs.).—Mg. & Eng. World, July 26, 1913; p 149; 3000 w*; 10c.

Fleck, Dr.—*Zur Geschichte des Bergbaues in Böhmen.* [Concerning the history of mining in Bohemia].—Glückauf, July 19, 1913; p 1136; 6200 w; 50c.

Garrison, F. Lynwood.—*Agricola; An Appreciation.*—M. & S. P., Aug. 9, 1913; p 218; 5500 w*; 20c.

Heym, Ingenieur.—*Bergwerksbetriebe in Mexiko.* [Mining in Mexico].—Kali, Erz. & Kohle, Aug. 15, 1913; p 808; 2500 w*; 35c.

Hirshberg, L. K.—*The Natural History of Coal.*—Coal Age, Sept. 20, 1913; p 406; 700 w; 20c.

Hoover, H. C.—*Historical Note on Smelting Lead and Silver.* (Footnote from book IX of Hoover's translation of Agricola).—E. & M. J., July 26, 1913; p 169; 1500 w; 25c.

Ingalsbe, F. R.—*The Coeur d'Alene Mining District.*—E. & M. J., July 26, 1913; p 156; 3200 w; 25c.

Karau, Bergassessor.—*Die Geschichte des deutschen Kalibergbaus in den letzten 25 Jahren, verbunden mit einem Rückblick auf seine Entstehung und die Bildung der Kalisalzlagerstätten;* [The history of German potash mining in the last 25 years, together with a glance back at the origin and formation of the deposits of potash salts].—Kali, June 15, 1913; p 295; 2800 w; 35c.

Kellogg, L. O.—*A Methuselah among American Mines.*—E. & M. J., Sept. 6, 1913; p 431; 1000 w*; 25c.

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Lowag, Josef.—*Die alten Bergrechte und Bergordnungen in Böhmen, Mähren und Schlesien.* [The old mining laws and regulations in Bohemia, Moravia and Silesia].—Montanist. Rundschau, July 16, 1913; p 677; 1200 w; 35c.

Pulsifer, H. B.—*Development of the Wisconsin Zinc Field.* (First article).—Mg. & Eng. World, June 21, 1913; p 1179; 2200 w*; 10c.

Ressel, Anton,—*Ueber den ehemaligen Eisenbergbau in Raspenau.* [On the early iron mining in Raspenau] (Address before Verein für Heimatkunde).—Montan-Ztg., July 15, 1913; p 264; 3000 w; 35c.

Rice, Claude T.—*Recent Advance in Butte Mining Practice.*—Mg. & Eng. World, July 26, 1913; p 143; 5300 w; 10c.

Schmidt, Albert. — *Die nordbayrischen Eisen- und Manganvorkommen.* [The north Bavarian occurrence of iron and manganese].—Berg & Hüttenmännische Rundschau, Sept. 5, 1913; p 293; 5000 w; 35c.

Simmons, Major J. A.—*The Origin of the Present Apex Law.*—Mg. & Eng. World, Aug. 23, 1913; p 333; 1750 w*; 10c.

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Storms, Wm. H.—*The Passing of the Comstock Lode.*—Mg. & Eng. World, Nov. 15, 1913; p 877; 3500 w; 10c.

Wilson, D. C.—*Iron; Where Does It All Go?*—Bull. Am. Foundrymen's Assn.; p 205; 3 pp; 35c.

Wolff, Th.—*Das Gold der Alten;* [The gold of the ancients].—Bergwerks-Ztg., June 26, 1913; p 1; 900 w; June 27; p 1; 900 w; 70c.

——— *Die Bergbauindustrie der früheren europäischen Türkei.* [The mining industry of early European Turkey].—Bergwerks-Ztg., Aug. 12, 1913; p 1; 1800 w; Aug. 13; 1000 w; Aug. 14; 1600 w; Aug. 15; 900 w; $1.40.

———. *Historical Note on Copper Smelting.* (Notes from Hoovers' translation of Book IX of Agricola).—E. & M. J., Aug. 23, 1913; p 359; 3000 w; 25c.

——— *Historical Note on Tin Smelting.* (Excerpt from Book IX of Hoover's Translation of Agricola).—E. & M. J., Sept. 13, 1913; p 495; 1500 w; 25c.

———. *Kurze Geschichte der Petroleum Industrie Kanadas.* [A short history of the petroleum of Canada] (Translated from Oil, Paint & Drug Reporter).—Chemiker & Tech.-Ztg., July 1, 1913; p 102; 500 w; 35c.

——— *The Messina Copper Co., Transvaal.*—S. Af. Mg. Jnl., Nov. 1, 1913; p 206; 2500 w*; 35c.

——— *Zur Geschichte der Stassfurter Kalindustrie.* [On the history of the Stassfurt potash industry].—Kali, Erz & Kohle, Sept. 15, 1913; p 916; 1800 w; 35c.

——— *Zur Geschichte des russischen Hüttenwesens.* [On the history of the Russian metallurgical industry].—Bergwerks-Ztg., Oct. 19, 1913; p 1; 1200 w; 35c.

——— *Zur Geschichte und Entwickelung der Petroleumfelder in Burma.* [On the history and development of the petroleum fields in Burmah].—Petroleum, Aug. 20, 1913; p 1496; 5500 w; 60c.

GENERAL MISCELLANY

Barneveld, Chas. E. van.—*The Panama-Pacific International Exposition.*—Mg. & Eng. World, June 28, 1913; p 1228; 1900 w; 10c. M. & S. P., June 28, 1913; p 975; 2200 w; 20c.

Blackburn, Ward. — *The Underground Blacksmith Shop.*—Comp. Air Mag., Aug., 1913; p 6911; 4 pp*; 20c.

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Hobson, J. A.—*Gold, Prices & Wages.*—London, Methuen & Co.; New York, George H. Doran Co.; 181 pp; $1.25 (book).

Hutchins, John Power.—*Traveling in Russia.*—Mg. Mag., Oct., 1913; p 280; 4500 w*; 35c.

Jeffrey, R. H.—*An Experience in Mexico.* Mg. Mag., Oct., 1913; p 289; 2000 w*; 35c.

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Smith, A. D.—*Specifications for Lubricating Oil.* (Proceedings Engrs. Soc. West. Pa.).—Coll'y Engr., July, 1913; p 681; 4000 w; 35c.

Smith, George Otis.—*Plain Talk on Land Law Revision.* (Address before Am. Mg. Congress, Philadelphia).—M. & S. P., Oct. 25, 1913; p 640; 2800 w; 20c.

Storms, William H.—*Observations from an Engineer's Note Book.* (Seventh article). Mg. & Eng. World, June 28, 1913; p 1237; 3000 w; 10c.

Taylor, L. H., Jr.—*Salted Drill Samples of Elliptic Mine.*—E. & M. J., Aug. 9, 1913; p 269; 900 w; 25c.

Thomas, Kirby.—*Seeing Further than the Point of a Pick.*—Ind. Advocate, Halifax, July, 1913; p 5; 6000 w; 35c.

Van Hise, Charles R.—*Big Business and Industrial Prosperity.* (Paper read before Am. Mg. Cong.).—C. & C. Opr., Oct. 23, 1913; p 563; 2600 w; 20c. M. & S. P., Nov. 8, 1913; p 730; 2600 w; 20c.

Wallace, R. B.—*Lubricating Device for Hoisting Rope.*—E. & M. J., June 21, 1913; p 1246; 150 w*; 25c.

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Weston, Eustace.—*Gold Production in Relation to Humanity.*—Jnl. Chem. Met. & Mg. Soc. S. Af., April, 1913; p 472; 8000 w; 50c.

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———. *A Few Suggestions for the Master Mechanic.*—Mg. & Eng. World, June 21, 1913; p 1198; 700 w; 10c.

———. *A Geological Survey for China.*—M. & S. P., June 28, 1913; p 973; 900 w; 20c.

———. *American Capital in Mexican Mining* (Editorial).—Mg. & Eng. World, Aug. 2, 1913; p 1500 w; 10c.

———. *Ample Capital Necessary for Mining* (Editorial).—Mg. & Eng. World, July 26, 1913; p 142; 250 w; 10c.

———. *De l'Achat-Vente d'une Mine.* [On the Purchase-Sale of a mine].—L'Echo des Mines, May 22, 1913; p 578; 1300 w*; May 26; p 596; 750 w; 70c.

——— *Engineering English.* (Editorial).—E. & M. J., Nov. 29, 1913; p 1037; 900 w; 25c.

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———. *Good Will a Mining Asset* (Editorial).—Mg. & Eng. World, Aug. 2, 1913; p 191; 1400 w; 10c.

———. *Industrial Arts Index; A Cumulative Index to Engineering and Trade Periodicals.*—Minneapolis, 1913; 112 pp.

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———*Mine Managers as Valuers.* [Editorial].—Mg. Mag., Oct., 1913; p 258; 1400 w; 35c.

——— *Mineral and Metal Trade of China in* 1912.—Mg. Jnl., London, July 19, 1913; 1300 w; 35c.

———. *Mining Schools and Politics, Editorial.*—M. & S. P., July 26, 1913; p 131; 900 w; 20c.

———. *Mining Ore by the Million Tons;* [Tonnages of gold, silver, copper and lead ore mined by certain large concerns in United States].—M. & S. P., June 14, 1913; 500 w; 20c.

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———. *Temperature Conversion Table.*—Met. & Chem. Eng., July, 1913; p 394; 1½ col.; 35c.

———. *The Administration and Mexico.*—Editorial.—M. & S. P., Sept. 6, 1913; p 366; 350 w; 20c.

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——— *The New U. S. Tariff on Mineral Products.*—M. & S. P., Oct. 25, 1913; p 656; 3000 w; 20c.

——— *The New Mining Laws of Alaska.*—Mg. & Eng. World, Nov. 29, 1913; p 977; 2300 w; 10c.

———. *The Situation in Mexico.*—E. & M. J., July 26, 1913; p 171; 300 w*; 25c.

———. *Verschiedene Arten von Wagenkippern.* [Different types of car dumps].—Bergbau, July 10, 1913; p. 453; 800 w*; 35c.

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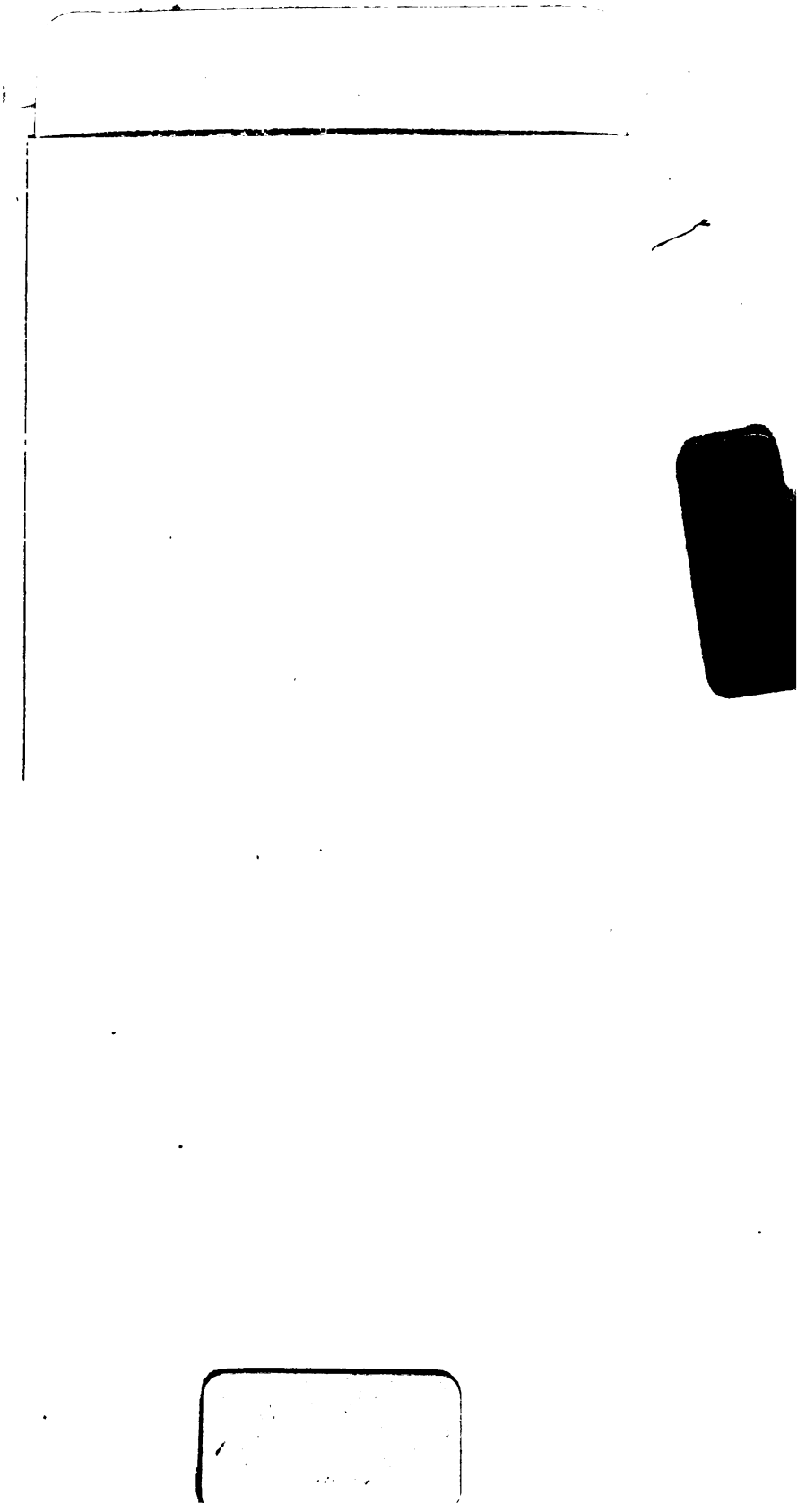

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